TM 5-3805-264-14&P

OPERATOR'S, UNIT, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL

WITH

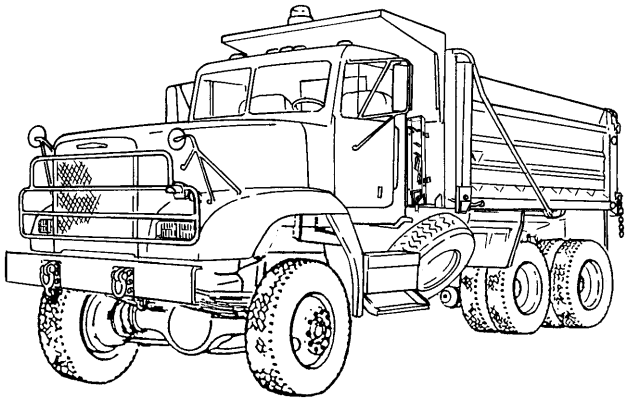
REPAIR PARTS AND SPECIAL TOOLS LISTS

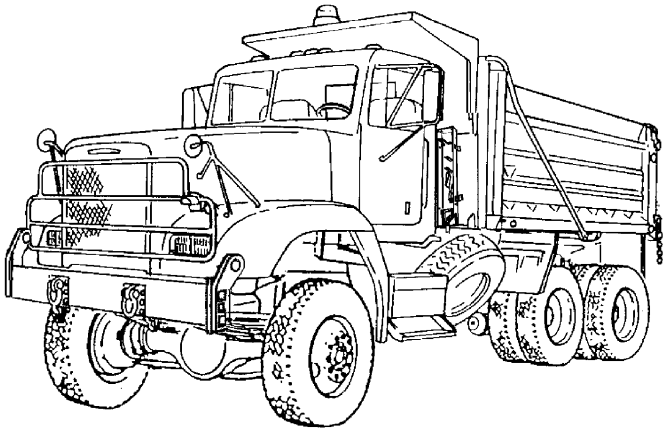
FOR

TRUCK, DUMP, HEAVY, BODY
M917A1 (NSN 3805-01-431-1165) (EIC:E5C)
M917A2 (NSN 3805-01-488-7442) (EIC:BPB)

AND

M917A1 W/MCS (MATERIAL CONTROL SYSTEM)
(NSN 3805-01-432-8249) (EIC: E5D)
M917A2 W/MCS (MATERIAL CONTROL SYSTEM)
(NSN 3805-01-488-6963) (EIC: BA4)





This manual supersedes TM 5-3805-264-14&P dated December 1997

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HEADQUARTERS, DEPARTMENT OF THE ARMY

DECEMBER 2005

CHANGE
No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 14 February 2011

TECHNICAL MANUAL
OPERATOR'S, UNIT, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL

WITH

REPAIR PARTS AND SPECIAL TOOLS LISTS

FOR

TRUCK, DUMP, HEAVY, BODY
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DISTRIBUTION STATEMENT A - Approved for public release; distribution is unlimited.

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2. New or updated material is indicated by an asterisk in the outer margin of the page.
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Remove Pages	Insert Pages
A/(B Blank)	A/(B Blank)
i and 1-0	i and 1-0
11-1 and Figure 12	11-1 and Figure 12
I-3 thru I-6	I-3 thru I-6
I-13 and I-14	I-13 and I-14
DA Form 2028 Sample	DA Form 2028 Sample
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General, United States Army
Chief of Staff

Official:

JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army
1101301

DISTRIBUTION:

To be distributed in accordance with the initial distribution requirements for IDN 381066 TM 5-3805-264-14&P.

FOR INFORMATION ON FIRST AID, REFER TO FM 4-25.11.

WARNING

CARBON MONOXIDE (EXHAUST GASES) CAN KILL!

Carbon monoxide is a colorless, odorless, deadly poison which, when breathed, deprives the body of oxygen and causes suffocation. Exposure to air containing carbon monoxide produces symptoms of headache, dizziness, loss of muscular control, apparent drowsiness, and coma. Permanent brain damage or death can result from severe exposure.

Carbon monoxide occurs in exhaust fumes of internal combustion engines. Carbon monoxide can become dangerously concentrated under conditions of inadequate ventilation. The following precautions must be observed to ensure safety of personnel when engine of dump truck is operated.

1. DO NOT operate engine in enclosed areas.
2. DO NOT idle engine for long periods without maintaining adequate ventilation in cab.
3. DO NOT drive dump truck with inspection plates or cover plates removed.
4. BE ALERT at all times for exhaust poisoning symptoms. They are:
   - Headache
   - Dizziness
   - Sleepiness
   - Loss of muscular control
5. If you see another person with exhaust poisoning symptoms:
   - Remove person from area.
   - Expose to fresh air.
   - Keep person warm.
   - Do not permit physical exercise.
   - Administer cardiopulmonary resuscitation (CPR), if necessary.
   - Notify a medic.
6. BE AWARE. The field protective mask for nuclear-biological-chemical (NBC) protection will not protect you from carbon monoxide poisoning.

THE BEST DEFENSE AGAINST CARBON MONOXIDE POISONING IS GOOD VENTILATION!

WARNING

CARGO COVER OPERATION

Observe the following safety regulations when operating cargo cover:

- Never operate cargo cover under obstructions, such as trees and power lines.
- Ensure that all personnel are clear of rear of dump body and the immediate area of the cover.
- Ensure that chain cover is in place.
- Keep all clothing away from moving parts.
- DO NOT cover load with crank handle installed.
- DO NOT use cargo cover frame as a grabhandle.

Failure to follow this warning may result in death or injury to personnel.

WARNING

CLEANING AGENTS

- Dry cleaning solvent MIL-PRF-680 Type III is an environmentally compliant and low toxic material. However, it may be irritating to the eyes and skin. The use of protective gloves and goggles is suggested. Use in well-ventilated area. Keep away from open flame and other sources of ignition.
- Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and damage equipment. To prevent this, refer to TM 9-247 for further instructions.

WARNING

COMPRESSED AIR

Compressed air used for cleaning or drying purposes, or for clearing restrictions, should never exceed 30 psi (207 kPa). Wear protective clothing (goggles/shield, gloves, etc.) and use caution to avoid injury to personnel.

WARNING

DUMP BODY OPERATION

- Hearing protection is required when performing loading or dumping operations. Failure to follow this warning may result in injury to personnel.
- Ensure that parking brake is set before loading dump truck (TM 9-2320-363-10 or TM 9-2320-302-10). If parking brake is not set, dump truck could roll or shift position. Failure to follow this warning may result in death or injury to personnel or damage to equipment.
- Stand clear of dump body during loading operation. Material being loaded could fall on personnel standing too close. Failure to follow this warning may result in death or injury to personnel.
- NEVER unlock tailgate or operate MCS tailgate or gates, or operate hydraulic control lever in cab without first ensuring that all personnel are clear of dump body. Failure to follow this warning may result in injury to personnel.
- NEVER raise dump body without first checking for overhead obstructions such as trees and power lines. Ensure that overhead clearance is sufficient. Failure to follow this warning may cause death or injury to personnel.

WARNING

DUMP BODY OPERATION (Con't)

- NEVER raise dump body more than half way with tailgate or MCS gates closed. If dump body is raised fully without opening tailgate/MCS gates, dump truck center of gravity will shift rearward. Dump truck could tip, causing injury to personnel or damage to equipment.
- DO NOT spread or dump payload with dump truck facing a steep upgrade or a steep side slope. Dump truck may tip over backward or sideways. Failure to follow this warning may result in death or injury to personnel or damage to equipment.
- DO NOT park on a slope. Park on level ground only. Parking on a slope could cause load to shift and dump truck to tip over. Failure to follow this warning may result in death or injury to personnel or damage to equipment.
- DO NOT attempt to dump in high wind. High winds may disperse aggregate. High winds may also cause dump truck to roll over when dump body is raised. Failure to follow this warning may result in death or injury to personnel or damage to equipment.
- Stay at controls while dumping. If dump body leans or shifts to one side, lower it immediately and check for one of the following:
  - underinflated or flat tires
  - tires sinking in soft soil
  - load shifting to one side of body
  - high or gusty wind
  - weak or broken leaf spring

  If one of these or any other problems are found, do not continue dumping until the problem is corrected. Failure to follow this warning may result in death or injury to personnel or damage to equipment.
- DO NOT try to loosen a sticky load by pulling forward or backward and braking abruptly. Injury to personnel or damage to equipment may result.

WARNING

HAZARDOUS WASTE DISPOSAL

When servicing this vehicle, performing maintenance, or disposing of materials such as engine coolant, transmission fluid, lubricants, battery acids or batteries, and CARC paint, consult your Unit/Local Hazardous Waste Disposal Center or safety office for local regulatory guidance. If further information is needed, please contact the Army Environmental Hotline at 1-800-872-3845.

WARNING

HEAVY COMPONENTS

- Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.
- Dump body side boards weigh approximately 65 lb (30 kg) each. Two personnel are required to install or remove side boards. Failure to follow this warning may cause injury to personnel.

WARNING

HYDRAULIC SYSTEM

- DO NOT disconnect hydraulic lines while engine is running. Engine must be shut down and dump body fully lowered or supported on body props before lines are disconnected. Escaping hydraulic fluid under pressure can penetrate the skin, causing serious injury to personnel.
- To prevent burns, use caution when removing fill cap of hydraulic reservoir when hydraulic fluid is hot. Avoid contact with hot hydraulic oil. Use extreme care when filling, sampling or draining hydraulic oil. Failure to follow this warning may result in injury to personnel.

WARNING

MATERIAL CONTROL SYSTEM (MCS)

- Use extreme caution when adjusting MCS gate openings. NEVER adjust gate openings when gates are open. Failure to follow this warning could result in injury to personnel.
- Keep hands and feet away from gate openings at all times. Failure to follow this warning could result in injury to personnel.
- DO NOT stand or walk behind dump truck when it is dumping or in raised position. When using MCS remote control, always walk or stand to side of dump body. Failure to follow this warning may result in personnel injury.
- DO NOT connect or disconnect MCS remote control when dump body is being raised or lowered. Failure to follow this warning may cause personnel injury.
- When connected, MCS remote control overrides cab control unit. When remote control is disconnected, cab control activates. To avoid inadvertent opening or closing of gates, ALWAYS check gate positions and position of toggle switches on both cab and remote controls before plugging in or unplugging remote control. Toggle switches should be in CLOSED position. Failure to follow this warning may cause personnel injury.
- Care must be exercised when using the Material Control System (MCS). In the event material fails to flow through gates, open gate using open control and clear jam using BII shovel. DO NOT attempt to clear material using your hands or feet. Failure to follow this warning may cause injury to personnel.

WARNING

WORK SAFETY

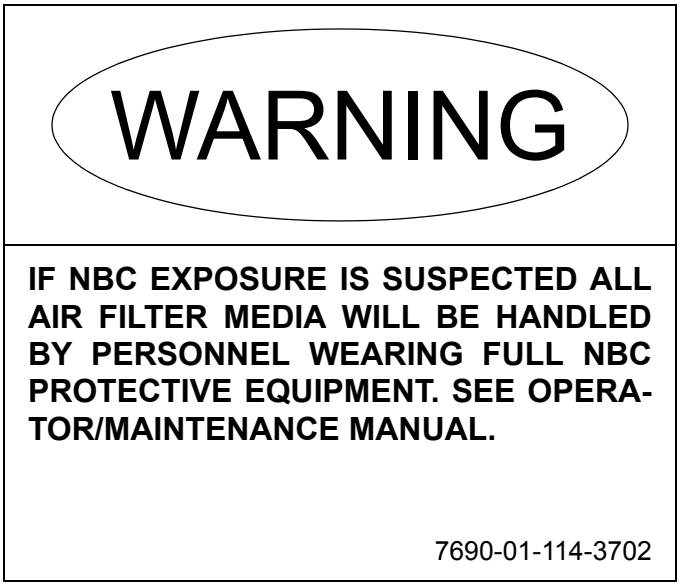
- Unless otherwise specified, perform all maintenance with dump truck on level ground, transmission in N (Neutral), parking brake set, and engine off. Failure to follow this warning may result in personnel injury.
- Wear eye protection when using high pressure stream of water to clean dump body. Failure to follow this warning may result in injury to personnel.
- NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.
- Although battery ground cable must be connected in order to test electrical circuit voltage, disconnect battery ground cable before performing resistance tests or replacing parts. This will prevent shock to personnel, and damage to parts and equipment.
- DO NOT touch heat shrinkable tubing for at least 30 seconds after heating. Heat shrinkable tubing is hot and will burn you.

- Hydraulic cylinder sleeves may extend downward as hydraulic cylinder is lifted. Expect sleeve movement any time hydraulic cylinder is handled. Failure to do so may result in serious injury to personnel.
- DO NOT disconnect tailgate release or MCS air lines while chassis or MCS air systems are pressurized. Air system pressure must be released before air lines are disconnected. A line disconnected under pressure may cause personnel injury.
- Provide adequate ventilation and personal protective equipment before starting any welding operation (TM 9-237). Contact your unit/local Industrial Hygienist or Safety Officer for assistance. Failure to follow this warning may result in injury to personnel.

WARNING

NBC EXPOSURE

If NBC exposure is suspected, all air filter media should be handled by personnel wearing protective equipment. Consult your NBC Officer or NBC NCO for appropriate handling or disposal procedures.


WARNING
IF NBC EXPOSURE IS SUSPECTED ALL AIR FILTER MEDIA WILL BE HANDLED BY PERSONNEL WEARING FULL NBC PROTECTIVE EQUIPMENT. SEE OPERATOR/MAINTENANCE MANUAL.
7690-01-114-3702

To order this NBC decal use:

National Stock Number (NSN) - 7690-01-114-3702
Part Number (PN) - 12296626
Commercial and Government Entity Code (CAGEC) - 19207

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TECHNICAL MANUAL
*TM 5-3805-264-14&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 30 December 2005

OPERATOR'S, UNIT, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL WITH REPAIR PARTS AND SPECIAL TOOLS LISTS

FOR

TRUCK, DUMP, HEAVY, BODY
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AND

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M917A2 W/MCS (MATERIAL CONTROL SYSTEM)
(NSN 3805-01-488-6963) (EIC: BA4)

Current as of 5 July 2005

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any errors, or if you would like to recommend any improvements to the procedures in this publication, please let us know. The preferred method is to submit your DA Form 2028 (Recommended Changes to Publications and Blank Forms) through the Internet, on the Army Electronic Product Support (AEPS) website. The Internet address is https://aeps.ria.army.mil. The DA Form 2028 is located under the Public Applications section in the AEPS Public Home Page. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, E-mail, or fax your comments or DA Form 2028 directly to the U.S. Army TACOM Life Cycle Management Command. The postal mail address is U.S. Army TACOM Life Cycle Management Command, ATTN: AMSTA-LCL-MPP/TECH PUBS, 6501 E 11 Mile Road, Warren, MI 48397-5000. The E-mail address is tacomlcmc.daform2028@us.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726.

***SUPERSEDURE NOTICE** - This manual supersedes TM 5-3805-264-14&P dated December 1997

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HOW TO USE THIS MANUAL

This manual is designed to help you operate and maintain the M917A1, M917A1 w/MCS, M917A2, and M917A2 w/ MCS Dump Truck Body.

FEATURES OF THIS MANUAL:

- A table of contents is provided at the beginning of this manual. An index of all paragraphs contained within a section is found at the beginning of each section.
- WARNINGs, CAUTIONs, NOTEs, subject headings, and other important information are highlighted in **BOLD** print as a visual aid.

WARNING

A WARNING indicates a hazard which can result in death or serious injury.

CAUTION

A CAUTION is a reminder of safety practices or directs attention to usage practices that may result in damage to equipment.

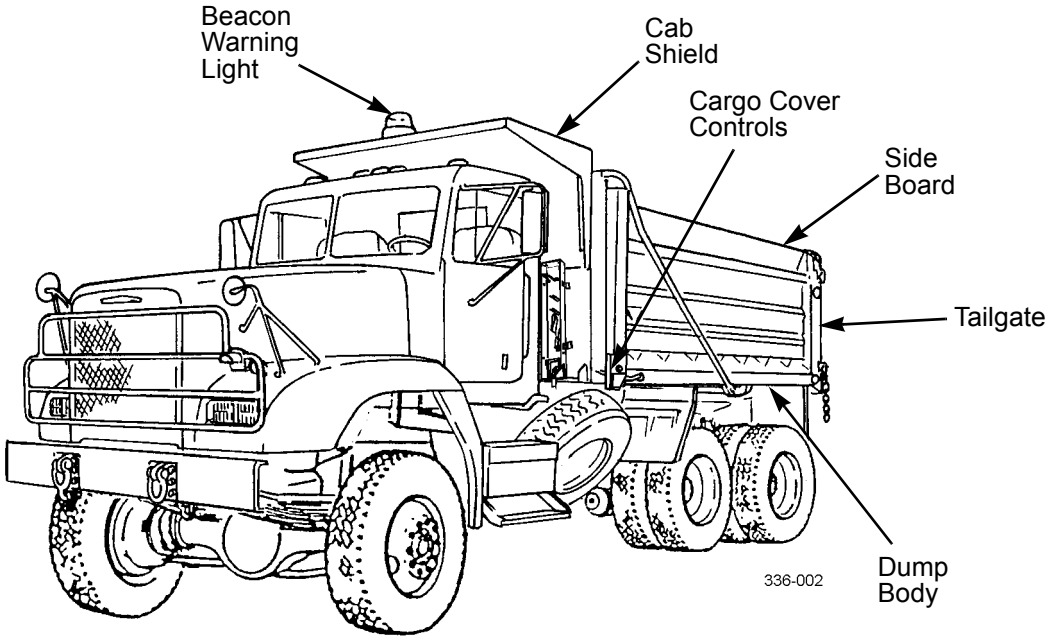
NOTE

A NOTE is a statement containing information that will make the procedure easier to perform.

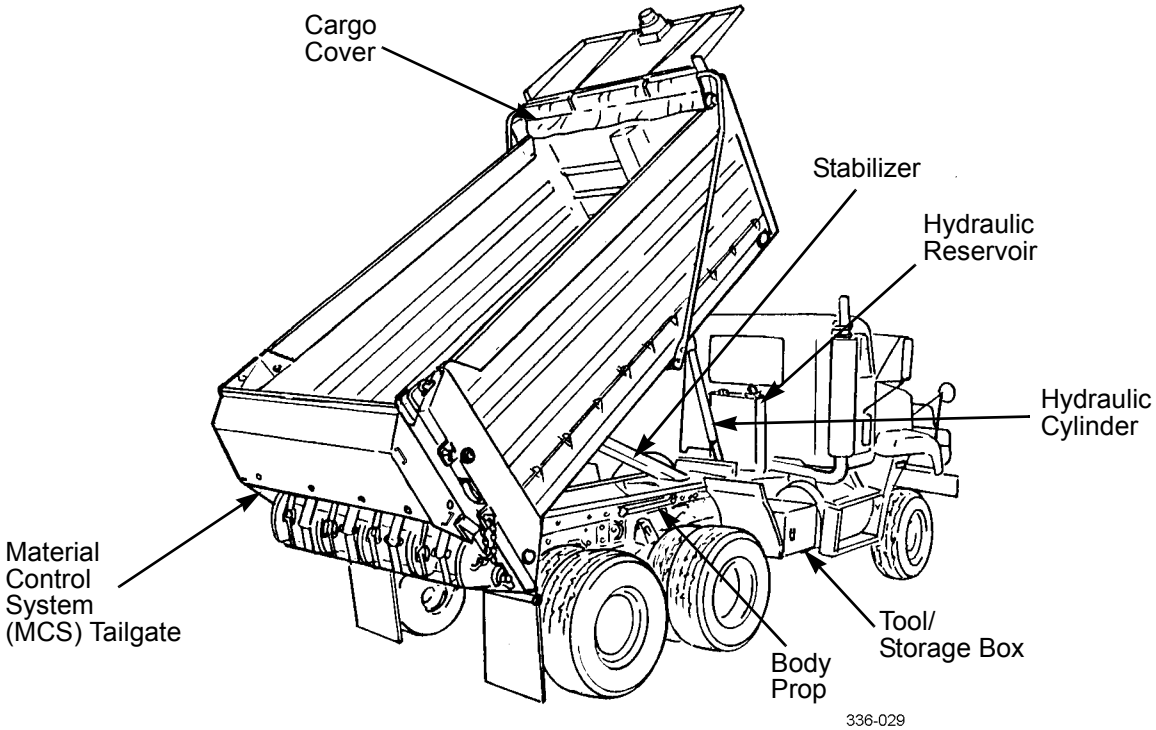
- Statements and words of particular importance are printed in CAPITAL LETTERS to create emphasis.
- Instructions are located with illustrations that show the specific task on which the operator or mechanic is working.
- Dashed leader lines used in illustrations indicate that called out items are not visible (i.e., they are located within the structure). Dashed leader lines in the Lubrication Chart indicate that lubrication is required on BOTH sides of the equipment.
- Technical instructions include metric units in addition to standard units. A metric conversion chart is provided on the inside back cover.
- An alphabetical index is provided at the end of the manual to assist in locating information not readily found in the Table of Contents.
- Numbers located at lower right corner of art (e.g. 336-003, 371-029, etc.) are art control numbers and are used for tracking purposes. Disregard these numbers.

FOLLOW THESE GUIDELINES WHEN YOU USE THIS MANUAL:

- Read through this manual and become familiar with its contents before attempting to operate or maintain the dump truck body.
- A warning summary is provided at the beginning of this manual and should be read before attempting to operate or maintain the dump truck body.
- Within a chapter or section, headings are used to help group the material to assist in quickly finding tasks. Read all preliminary information found at the beginning of each task. After completing a task, ALWAYS perform the follow-on maintenance at the end of the task.



M917A1/M917A2



M917A1 W/MCS / M917A2 W/MCS

CHAPTER 1
INTRODUCTION

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1-1. SCOPE.

NOTE

- **Refer to TM 9-2320-363-10, TM 9-2320-363-20, TM 9-2320-363-34, and TM 9-2320-363-24P for operation, maintenance and repair parts and special tools list for the M917A1 and M917A1 w/MCS chassis.**
- **Refer to TM 9-2320-302-10, TM 9-2320-302-20, TM 9-2320-302-34, and TM 9-2320-302-24P for operation, maintenance and repair parts and special tools list for the M917A2 and M917A2 w/MCS chassis.**

a. **Type of Manual.** Operator's, Unit, Direct Support, and General Support Maintenance Manual with Repair Parts and Special Tools Lists.

b. **Equipment Name and Model Number.** Truck, Dump, Heavy, Body: 6 x 6, 14 Cu Yd, On-Off Highway, M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS.

c. **Purpose of Equipment.** Used by engineering and construction units to transport and dump or spread aggregate, hot mix asphalt or similar materials.

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS.

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, (*Functional User's Manual for the Army Maintenance Management System*) as contained in the Maintenance Management Update.

1-3. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE.

Refer to TM 750-244-3 for procedures for destruction of Army materiel to prevent enemy use.

1-4. PREPARATION FOR STORAGE OR SHIPMENT.

Refer to Chapter 4, Section X, for instructions for preparing the dump truck body for storage or shipment.

1-5. OFFICIAL NOMENCLATURE, NAMES, DESIGNATIONS, AND ABBREVIATIONS.

NOTE

Refer to ASME Y14.38-1999 for standard abbreviations.

Official Name	Common Name or Abbreviation
Central Tire Inflation System	CTIS
Corrosion Prevention and Control	CPC
Material Control System	MCS
Power Take-Off	PTO

1-6. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs).

If your dump truck needs improvement, let us know. Send us an SF Form 368 (*Product Quality Deficiency Report)*. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Mail it to us at: Commander, U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-AC-NML, Rock Island, IL 61299-7630. We'll send you a reply.

1-7. WARRANTY INFORMATION.

The vehicles are warranted by Freightliner Corporation in accordance with TB 9-2320-363-15 (M917A1 and M917A1 w/MCS) and TB 9-2320-302-15 (M917A2 and M917A2 w/MCS). Warranty starts on the date found in block 23, DA Form 2408-9 in the logbook. Report all defects in workmanship to your supervisor, who will take appropriate action through your Unit Maintenance shop.

1-8. SAFETY, CARE, AND HANDLING.

a. **First Aid.** For first aid information refer to FM 21-11, *First Aid for Soldiers*.

b. **Personnel Safety Precautions.**

(1) Read and become familiar with all WARNINGS in the warning summary at the front of this manual.

(2) Pay attention to WARNING decals on the dump body. These provide safety instructions and identify specific hazards which, if not followed, may result in serious injury or death to personnel.

(3) Throughout this manual, WARNINGs and CAUTIONs are given immediately preceding the procedural steps to which they apply. Read these WARNINGs and CAUTIONs and follow them exactly.

(4) When performing maintenance, protect yourself against injury. Wear protective gear such as safety goggles or lenses, safety shoes, rubber apron, gloves, etc.

(5) Notify others in the area if you are handling flammable materials. Know the location of fire extinguishers and emergency procedures in case of accident or fire.

1-8. SAFETY, CARE, AND HANDLING (Con't).

(6) Before performing maintenance, ensure that dump truck is secured against movement. Park vehicle on level ground, place transmission in N (Neutral), and set parking brake (TM 9-2320-363-10 for M917A1 and M917A1 w/MCS or TM 9-2320-302-10 for M917A2 and M917A2 w/MCS). If parking brake is not functioning, chock wheels.

(7) NEVER work under raised dump body unless body props are used to prop it safely in the raised position.

(8) When lifting heavy parts, have someone help you. Ensure that lifting or jacking equipment is working properly, is of sufficient capacity for the assigned task, and is secure against slipping.

1-9. CORROSION PREVENTION AND CONTROL (CPC).

a. CPC of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements made to prevent the problem in future items.

b. While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem.

c. If a corrosion problem is identified, it can be reported using SF 368 (*Product Quality Deficiency Report*). Use of key words such as "corrosion," "rust," "deterioration," or "cracking" will ensure that the information is identified as a CPC problem. The form should be submitted to the address specified in DA Pam 738-750.

Section II. EQUIPMENT DESCRIPTION AND DATA

Paragraph Number	Paragraph Title	Page Number
1-10.	Equipment Characteristics, Capabilities, and Features	1-4
1-11.	Location and Description of Major Components	1-5
1-12.	Location and Contents of Plates, Decals, and Stencils	1-7
1-13.	Differences Between Models	1-10
1-14.	Equipment Data	1-10

1-10. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

a. The M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS dump truck body consists of a steel body designed to transport and dump or spread aggregate, hot mix asphalt or similar materials. A sealed, open-loop hydraulic system raises and lowers the dump body. The hydraulic system operates on pressure supplied by a gear pump that is mounted directly to the transmission's PTO.

b. The dump body has a 14 cubic yard (10.7 m³), 18.5 ton (16.8 metric ton) capacity. It is constructed of heavy duty steel with an abrasion resistant floor.

c. Wooden side boards along the top on both sides of the dump body add height to help prevent spillage when hauling material.

d. The dump body is equipped with a cargo cover that is easily operated by one person.

e. The operator's instrument panel inside the vehicle cab has a Body Up and a Body (Transport) Lock indicator light. These lights allow monitoring of the dump body's status without leaving the cab.

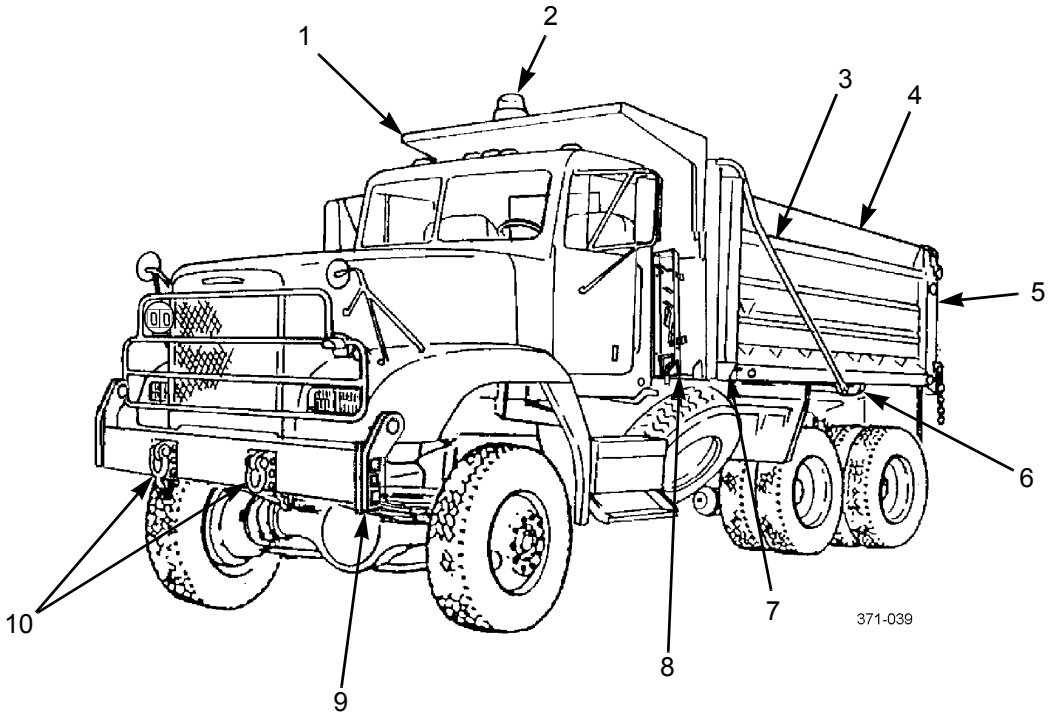
f. The chassis has limited off-road capabilities with a CTIS (TM 9-2320-363-10 for M917A1 and M917A1 w/MCS or TM 9-2320-302-10 for M917A2 and M917A2 w/MCS). This provides a wide variety of terrain in which the dump truck can operate.

g. The M917A1, M917A1 w/MCS, M917A2 and M917A2 w/MCS are the same except for the tailgate configuration.

(1) The M917A1 and M917A2 have a double-acting tailgate, which opens at the top or bottom, with chains to adjust the tailgate opening. The tailgate is unlocked and locked by operating the tailgate release control valve lever on the instrument panel inside the cab.

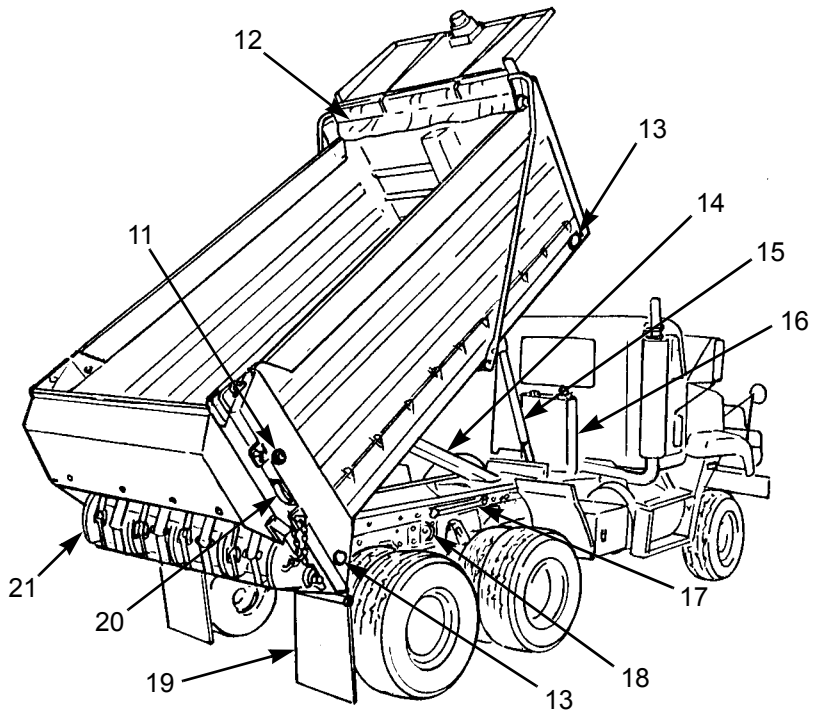
(2) The M917A1 w/MCS and M917A2 w/MCS have a tailgate with dual-function capability. It is equipped with an MCS with four independently controlled gates. If can also be operated as a top-hinged tailgate.

1-11. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.



Key	Component	Description
1	Cab Shield	Protects cab during loading operations.
2	Beacon Warning Light	Rotating amber strobe light alerts other vehicles of presence of dump truck.
3	Dump Body	Bed constructed of steel used for hauling aggregate, hot mix asphalt, and other materials.
4	Side Boards	Wooden boards add height to sides of dump body to help prevent spillage when hauling material.
5	Tailgate	Double-acting tailgate, opened at top or bottom with chains to adjust opening.
6	Cable Guides	Vehicle lifting cables pass through guides to maintain correct center of balance and to protect dump body from damage.
7	Cargo Cover Controls	Consist of crank handle and control handle. Extend and retract cargo cover.
8	Shovel Bracket	Provides exterior storage for shovel.
9	Bumper Extensions (M917A2 and M917A2 w/ MCS)	Provide adjustable attachment point for slings.
10	Lift/Tie-Down Shackles	Provide lift and tie-down points for dump truck.

1-11. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (Con't).



Key	Component	Description
11	Marker Clearance Lights	Indicate presence of dump body.
12	Cargo Cover	Prevents spillage of dump body contents.
13	Reflectors	Mark outline of dump body.
14	Stabilizer	Maintains stability of raised dump body.
15	Hydraulic Cylinder	Hydraulic cylinder raises and lowers dump body.
16	Hydraulic Reservoir	Contains hydraulic fluid.
17	Body Props	Support raised, EMPTY dump body for inspection and maintenance.
18	Lifting Eyes	Provide lift points for dump truck.
19	Mud Flaps	Prevent dirt and mud from tires from spraying passers-by or other vehicles.
20	Taillights	Include tail, stop, and turn signal lights. Backup lights are located only in chassis-mounted taillights (TM 9-2320-363-10 or TM 9-2320-302-10).
21	MCS Tailgate (M917A1 w/MCS and M917A2 w/ MCS)	Has four electro-pneumatically controlled gates which allow for controlled spreading of material. Can also operate like a standard tailgate.

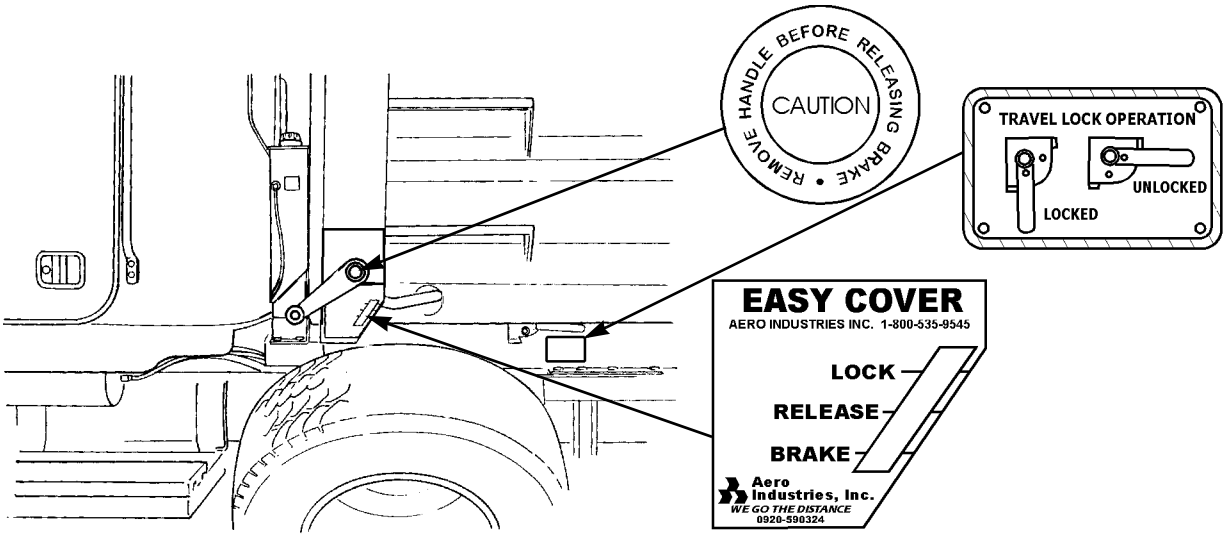
1-12. LOCATION AND CONTENTS OF PLATES, DECALS, AND STENCILS.

a. **Plates.**


OPERATION OF BODY PROP
1. Raise body to full height and shut off all power.
2. Raise prop to upright position.
3. Lower body slowly until body bracket contacts prop.
4. DO NOT POWER HOIST DOWN.
P/N 403375
CAUTION
BODY MUST BE BRACED BEFORE SERVICING HOIST OR WORKING IN AREA WITH BODY IN RAISED POSITION
TRUCK MUST BE LEVEL FOR DUMPING
DO NOT OVERLOAD
P/N 403378
CRYSTEEL MFG., INC.
DANGER
DO NOT GO UNDER RAISED BODY ! IT MAY DROP AND KILL YOU
OPERATE HOIST CONTROLS ONLY FROM INSIDE TRUCK CAB
P/N 403374
CAUTION
UNLOAD BODY BEFORE USING BODY PROP.
P/N 403376
Manufactured by Crysteel Mfg., Inc Lake Crystal MN
LUBRICATION DATA - M917A1 & M917A1MCS
INTERVAL ITEM DESCRIPTION SERVICE LUBE POINTS LUBRICANT
DAILY 5 HOIST OIL RESERVOIR CF OE/HDO
MONTHLY 1 TAILGATE HINGE PIN L 2 GAA
MONTHLY 2 BODY PROP L 2 GAA
MONTHLY 3 TRAVEL LOCK L 4 GAA
MONTHLY 4 STABILIZER L 5 GAA
OC 6 HOIST OIL FILTER CH
LUBRICATION KEY
C CHECK
F FILL
L LUBRICATE
CH CHANGE
B BOTH SIDES
OE/HDO LUBRICATING OIL, INTERNAL COMBUSTION TACTICAL SERVICE (MIL-L-2104)
GAA GREASE, AUTOMOTIVE & ARTILLERY (MIL-G-10924)
OC ON CONDITION SEE OPERATORS MANUAL
P/N 403541

1-12. LOCATION AND CONTENTS OF PLATES, DECALS, AND STENCILS (Con't).

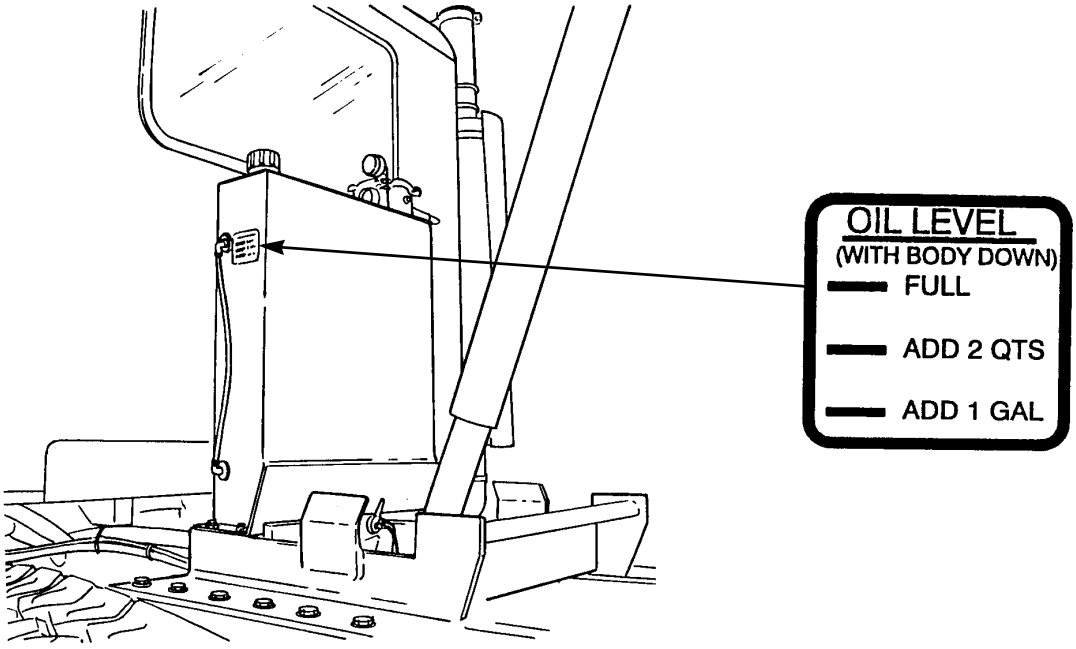
b. **Decals**.

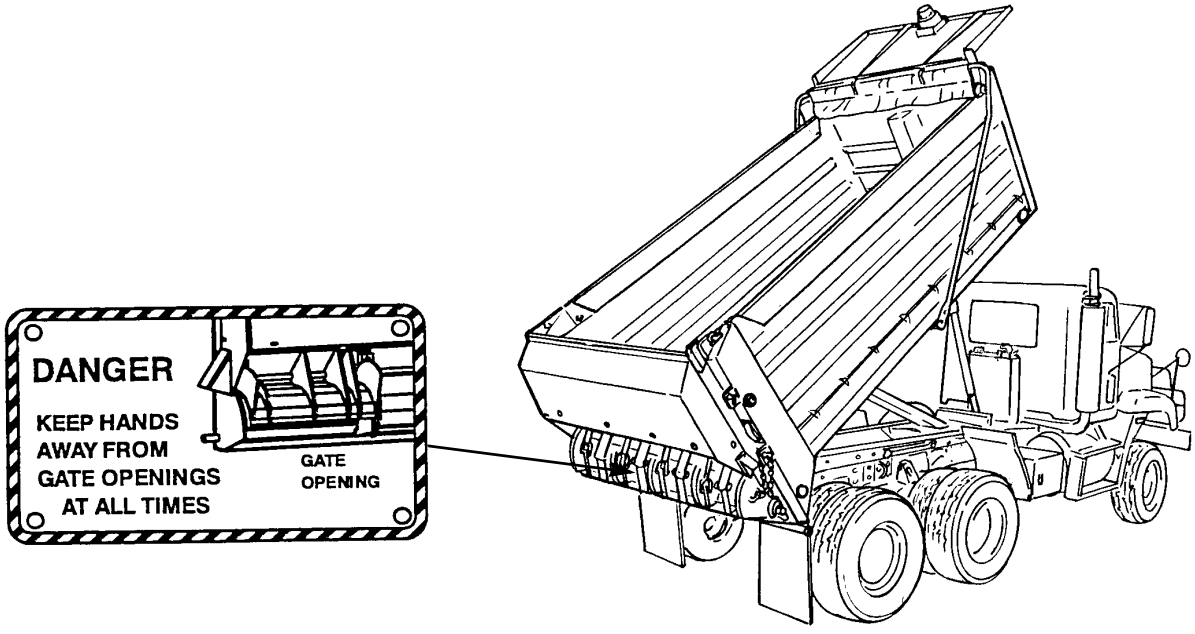


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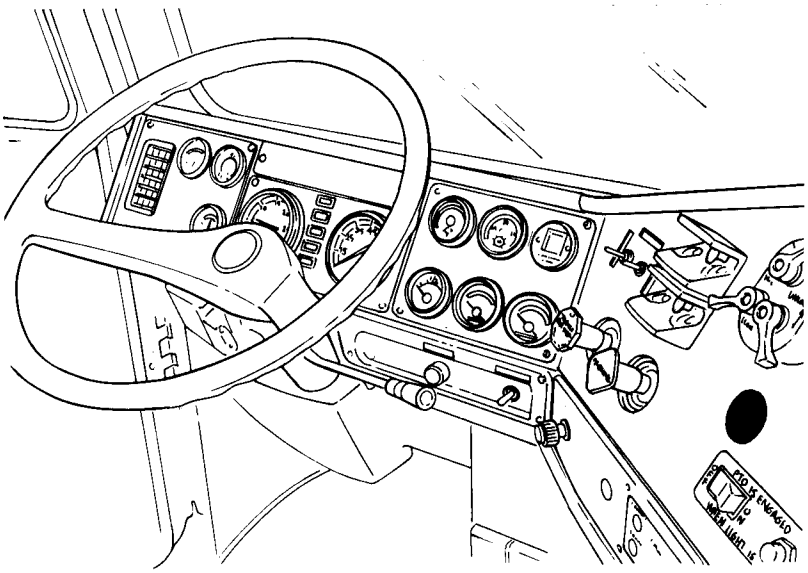

DANGER
• DO NOT GO UNDER RAISED BODY IT MAY DROP AND KILL YOU
• OPERATE HOIST CONTROLS ONLY FROM INSIDE TRUCK CAB
CAUTION
● BODY MUST BE BRACED BEFORE SERVICING HOIST OR WORKING IN AREA WITH BODY IN RAISED POSITION
● TRUCK MUST BE LEVEL FOR DUMPING
● DO NOT OVERLOAD
P/N 403377
CRYSTEEL MFG., INC.

1-12. LOCATION AND CONTENTS OF PLATES, DECALS, AND STENCILS (Con't).



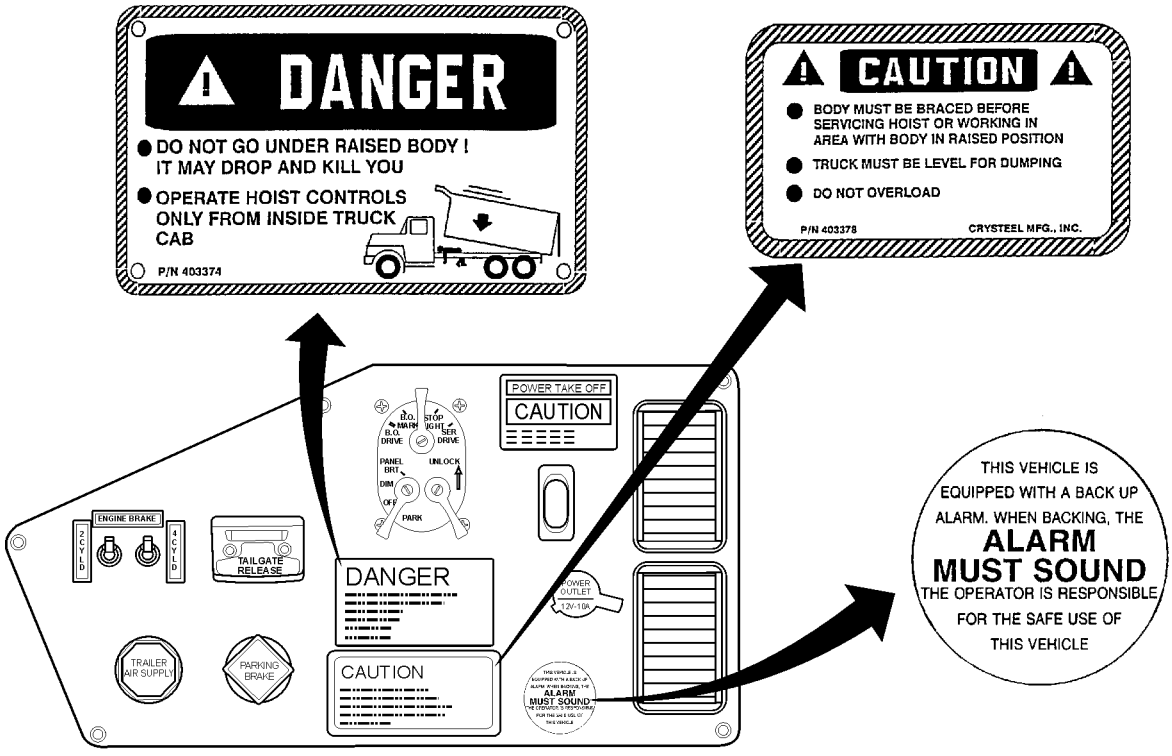


1-12. LOCATION AND CONTENTS OF PLATES, DECALS, AND STENCILS (Con't).



THIS VEHICLE IS
EQUIPPED WITH A BACK UP
ALARM. WHEN BACKING, THE
ALARM
MUST SOUND
THE OPERATOR IS RESPONSIBLE
FOR THE SAFE USE OF
THIS VEHICLE

M917A1



371-072

M917A2

1-13. DIFFERENCES BETWEEN MODELS.

a. The M917A1 and M917A1 w/MCS are the same except for tailgate configuration.

b. The M917A2 and M917A2 w/MCS are the same except for tailgate configuration.

c. The M917A1 and M917A2 tailgate opens from the bottom for normal dumping. Adjustment chains allow for adjustment of tailgate opening.

d. The M917A1 w/MCS and M917A2 w/MCS tailgate has four electro-pneumatically operated gates, controlled by a control unit mounted on the shift tower inside the cab or by a hand-held remote control that plugs into a receptacle on either side of the MCS tailgate. This allows controlled spreading of material. The MCS tailgate also operates as a standard tailgate, opening at the bottom.

1-14. EQUIPMENT DATA.

VEHICLE DIMENSIONS:	
Overall Length:	
M917A1/M917A2	303.8 in. (771.7 cm)
M917A1 w/MCS/M917A2 w/MCS	316.8 in. (804.7 cm)
Overall Height (M917A1 and M917A1 w/MCS)	143 in. (363 cm)
Overall Height (M917A2 and M917A2 w/MCS)	135.5 in. (344 cm)
Overall Width (M917A1 and M917A1 w/MCS)	102 in. (259 cm)
Overall Width (M917A2 and M917A2 w/MCS)	103.8 in. (364 cm)
Wheelbase (M917A1 and M917A1 w/MCS)	174 in. (442 cm)
Wheelbase (M917A2 and M917A2 w/MCS)	179 in. (455 cm)
Ground Clearance	9 in. (22.9 cm)
Turning Diameter	38.9 ft (11.9 m)
VEHICLE WEIGHTS:	
GVWR	68,000 lb (30,872 kg)
Curb Weight:	
M917A1 (Empty)	29,454 lb (13,372 kg)
M917A1 w/MCS (Empty)	31,472 lb (14,288 kg)
M917A2 (Empty)	30,600 lb (13,892 kg)
M917A2 w/MCS (Empty)	32,618 lb (14,809 kg)
DUMP BODY:	
Capacity	14 cu yd (10.7 m^3)
Load Capability	18.5 tons (16.8 metric tons)
Length	13.5 ft (411 cm)
Width:	
Inside	87 in. (221 cm)
Outside	96 in. (244 cm)
Height:	
Sides	40 in. (102 cm)
Front	62 in. (157 cm)
Rear	48 in. (122 cm)
Cargo Cover:	
Model	M400 AERO, side mount
Operation	Crank handle

1-14. EQUIPMENT DATA (Con't).

MCS TAILGATE (M917A1 w/MCS and M917A2 w/MCS):	
Operation	Inside cab control unit or remote control
Actuation	Electro/pneumatic
Gates	Four (4)
HYDRAULIC SYSTEM:	
Operation	PTO driven
Reservoir:	
Capacity	12.75 gal. (48.2 l)
Hydraulic Fluid	Lubricating oil, OE/HDO 10, MIL-L-2104 or OEA, MIL-L-46167
Hydraulic Pump:	
Type	Gear
Operating Pressure	2500 psi (17,238 kPa)
Hydraulic Filter:	
Type	10-micron cartridge element
Service Indicator	Service indicator gage
Location	Mounted on reservoir
Hydraulic Control Valve:	
Type	Single spool, three (3) ports
Location	Integral with hydraulic pump
Relief Valve Setting	2500 psi (17,238 kPa)
Hydraulic Cylinder:	
Weight	400 lb (181.6 kg)
Operating Pressure	2500 psi (17,238 kPa)
Stroke	124 in. (315 cm)
Stages	Three (3) double-acting stages

Section III. PRINCIPLES OF OPERATION

Paragraph Number	Paragraph Title	Page Number
1-15.	Electrical System	1-13
1-16.	Dump Body	1-13
1-17.	Hydraulic System	1-16

1-15. ELECTRICAL SYSTEM.

a. The dump body electrical system consists of wiring harnesses that connect to the vehicle's chassis wiring harnesses.

b. The dump body harnesses connect to:

(1) **Lights.** Taillights and marker clearance lights (one on each side of dump body and three in light cluster at rear hinge) are located on dump body. Beacon warning light is located on cab shield.

(2) **Instrument Panel Indicator/Warning Lights and Related Switches.** Body Up and Body (Transport) Lock indicator lights are located on instrument panel in cab. Body Up and Transport Lock switches are located on cylinder support frame.

(3) **MCS Tailgate (M917A1 w/MCS and M917A2 w/MCS).** Solenoid-controlled air cylinders open and close MCS gates.

1-16. DUMP BODY.

a. **Dump Body Assembly.**

(1) The dump body is a welded assembly of heavy gage steel with bolt-on assemblies and components. It is 13.5 ft (411 cm) long with 14 cu yd (10.7 m^3), 18.5 ton (16.8 metric ton) capacity.

(2) The dump body is attached to the truck frame at the rear hinge. Other attachment points are at the stabilizer and the hydraulic cylinder.

(3) An abrasion resistant steel bed resists wear and denting.

(4) A bolt-on cab shield protects the cab. The beacon warning light is mounted on the cab shield.

(5) Wooden side boards along the top on both sides of the dump body add height to help prevent spillage when hauling material.

(6) The dump body has an interlocking under structure.

b. **Stabilizer.**

(1) A hinged stabilizer, mounted between the truck frame and the dump body, adds stability as the dump body is raised.

(2) Five grease fittings on the stabilizer allow for lubrication.

c. **Body Props.**

(1) Use of body props permit inspection or maintenance to be safely performed underneath an empty raised dump body.

(2) Body props are located on outside of truck frame. When not in use, they are stowed in the horizontal position.

1-16. DUMP BODY (Con't).

(3) A grease fitting on each body prop pivot point allows for lubrication.

d. **Lubrication-Free Bearings.** There are composite, lubrication-free bearings with removable pins at the rear hinge and at the hydraulic cylinder pivot points.

e. **Transport Lock.**

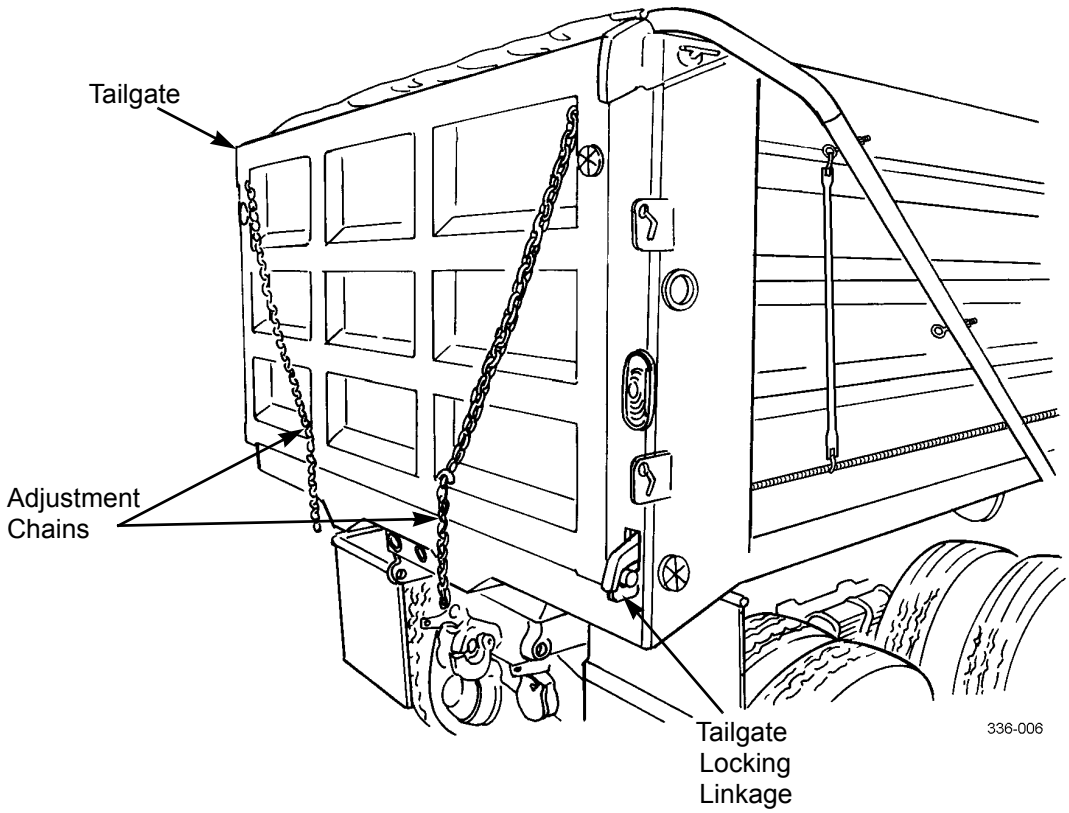
(1) A manually-operated transport lock is mounted on the left side of the dump body, near the front; it locks and unlocks the dump body from the truck frame. For normal operation, it is unlocked.

(2) The transport lock is placed in the locked position when the dump truck is being lifted and transported. This actuates a transport lock switch, which disengages the PTO, thereby preventing the PTO from operating to power the hydraulic cylinder.

f. **Cargo Cover.** A cargo cover helps prevent the load from spilling out. It is extended or retracted using the control handle or the removable crank handle.

g. **Tailgate Configuration.** The M917A1 and M917A2 differ from the M917A1 w/MCS and M917A2 w/MCS in tailgate configuration:

(1) **M917A1 and M917A2.**

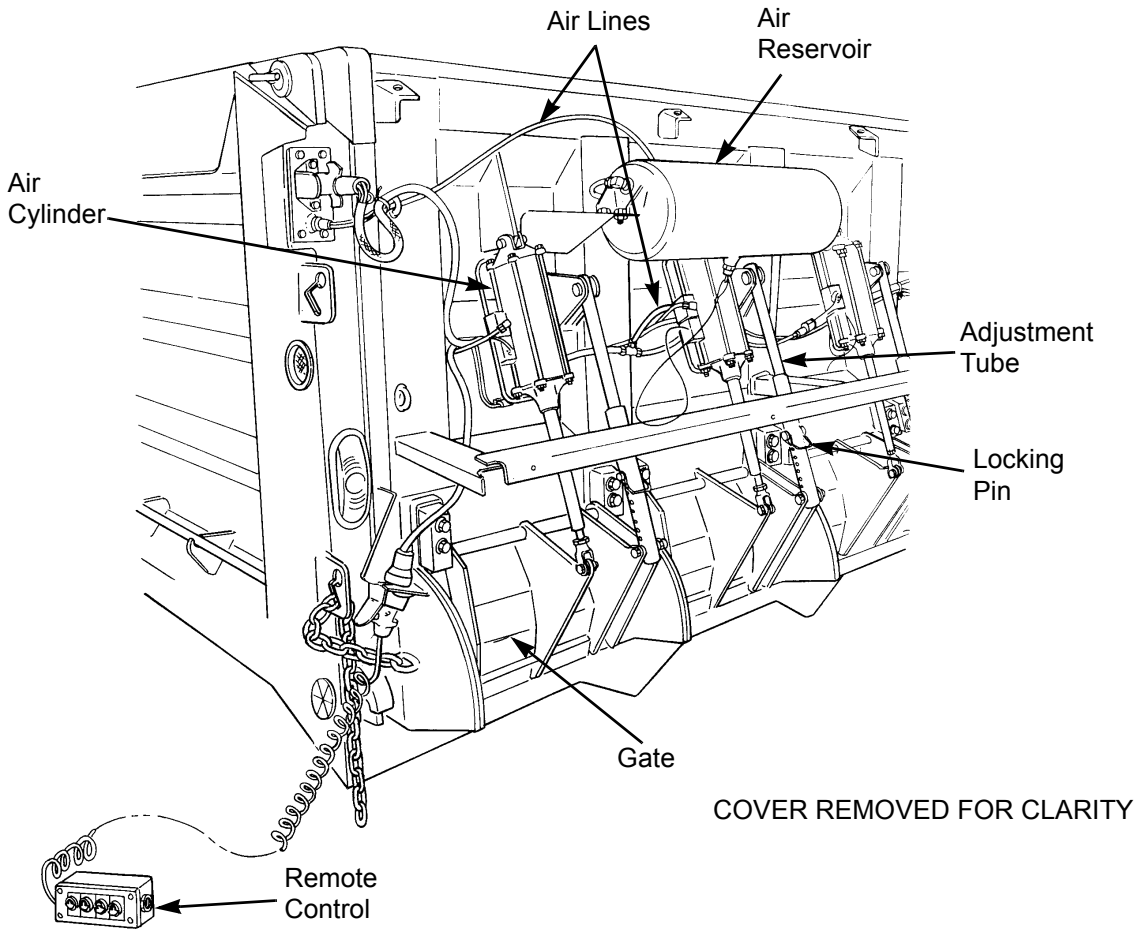


(a) The M917A1 and M917A2 use a nine-panel conventional tailgate that opens from the bottom to dump the load. Adjustment chains, mounted to the tailgate, control the tailgate opening for spreading operations.

(b) A tailgate release control valve lever, located on the instrument panel inside the cab, controls the tailgate release air cylinder mounted under the dump body to unlock and lock the tailgate at the bottom.

1-16. DUMP BODY (Con't).

(2) **M917A1 w/MCS and M917A2 w/MCS.**



(a) The MCS tailgate has four openings (gates) that are electro-pneumatically controlled by a cab control unit or a hand-held remote control. Each gate can be opened and closed independently of the other gates.

(b) Compressed air, plumbed from the chassis' air system and stored in an air reservoir mounted on the MCS tailgate, opens and closes the gates using solenoid-controlled air cylinders.

(c) Gate opening adjustments are made at each gate, using an adjustment tube with a locking pin that can be moved to different holes in the tube. The lower the pin placement, the larger the gate opening. The top pin placement locks the gate closed.

(d) The remote control has a coiled cable that plugs into a receptacle on the left or right side of the MCS tailgate. It is operated by a person walking alongside the dump body, while the operator inside the cab is dumping the load. When plugged in, the remote control overrides the control unit inside the cab.

(e) The MCS tailgate can also operate as a conventional tailgate, opening from the bottom.

1-17. HYDRAULIC SYSTEM.

a. The hydraulic system powers the hydraulic cylinder, which raises and lowers the dump body.

b. Major components of the hydraulic system are:

(1) **Hydraulic Pump.**

(a) The gear pump is mounted directly to the vehicle PTO. It supplies the system with a working pressure of 2500 psi (17,238 kPa) with approximately 1200 rpm input speed from the PTO.

(b) There is one port at the rear of the pump. It is connected to the bottom of the reservoir and receives, through a suction hose, hydraulic fluid from the reservoir.

(2) **Control Valve.**

(a) The control valve is an integral part of the hydraulic pump. It is a single spool type with the control spool linked mechanically to the hydraulic control lever in the cab.

(b) When the hydraulic control lever is pulled back, the control valve routes hydraulic fluid through port B to the hydraulic cylinder. This extends the cylinder and raises the dump body.

(c) When the hydraulic control lever is pushed forward, the control valve routes hydraulic fluid through port A to the hydraulic cylinder. This retracts the hydraulic cylinder and lowers the dump body.

(d) A third control valve port returns hydraulic fluid through the filter and into the reservoir.

(e) The control valve has a relief valve which is set at 2500 psi (17,238 kPa).

(3) **Hydraulic Cylinder.**

(a) The hydraulic cylinder is a three-stage telescoping cylinder with a 124 in. (315 cm) stroke.

(b) The bottom of the hydraulic cylinder is attached by a pivot pin to the cylinder support frame.

(c) The collar of the hydraulic cylinder is attached by pivot pins to the dump body inside the long beam at the front of the dump body.

(d) The pivot pins at the top and bottom of the cylinder allow the cylinder to pivot as it is extended and retracted. Composite lubrication-free bearings at these pivot points ensure smooth, maintenance-free operation.

(4) **Hydraulic Filter.**

(a) The filter is located on top of the reservoir. It filters hydraulic fluid as it returns to the reservoir through the return line from the control valve.

(b) The filter element is made of 10-micron synthetic material. A filter service indicator gage indicates when the filter needs replacing.

(c) The filter has a by-pass feature.

(5) **Hydraulic Reservoir.**

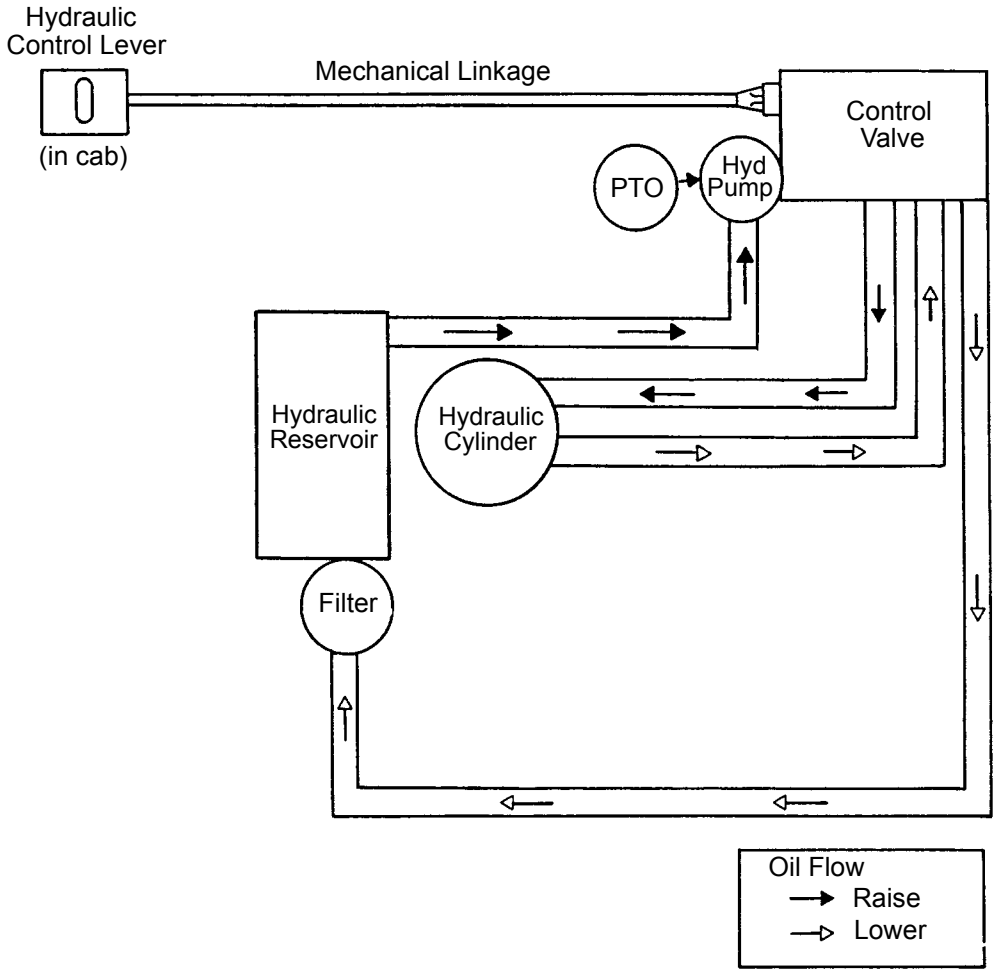
(a) The reservoir is an all steel container with a 12.75 gal. (48.2 l) capacity.

(b) It is mounted upright, bolted to the hydraulic cylinder mount, between the hydraulic cylinder and the vehicle cab.

(c) The fill cap is also a breather and a strainer. It must be kept clean at all times.

1-17. HYDRAULIC SYSTEM (Con't).

(d) The oil level in the reservoir can be seen through the sight tube on the outside of the reservoir. An oil level decal, mounted adjacent to the sight tube is marked FULL, ADD 2 QTS, and ADD 1 GAL.

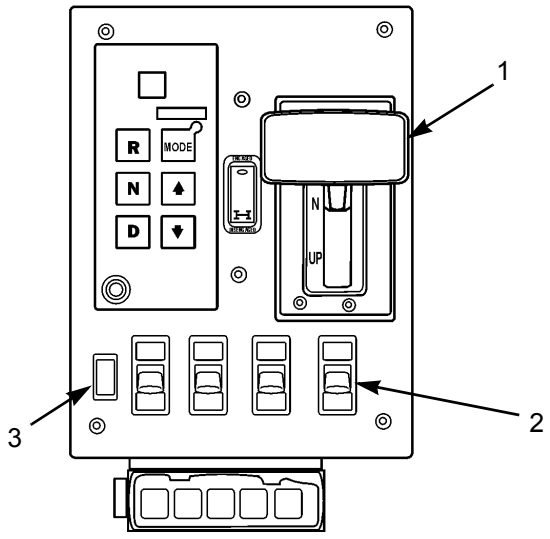


CHAPTER 2
OPERATING INSTRUCTIONS

Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

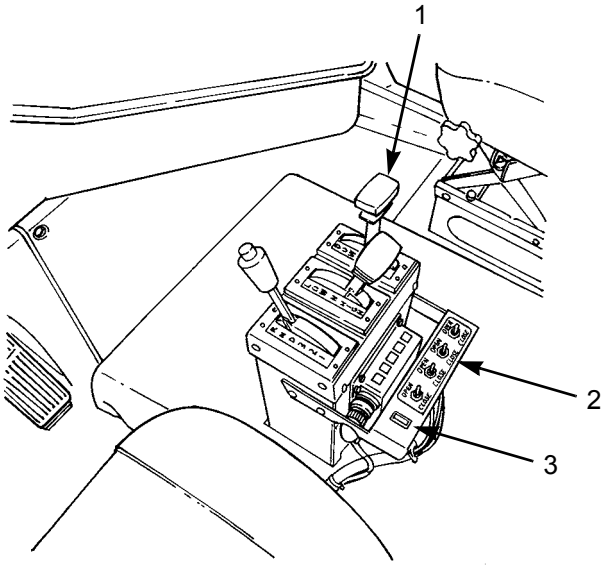
Paragraph Number	Paragraph Title	Page Number
2-1.	Cab-Mounted Controls and Indicators	2-1
2-2.	External Controls and Indicators	2-3

2-1. CAB-MOUNTED CONTROLS AND INDICATORS.



M917A2

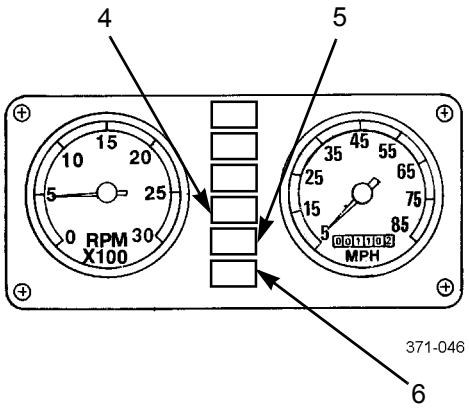
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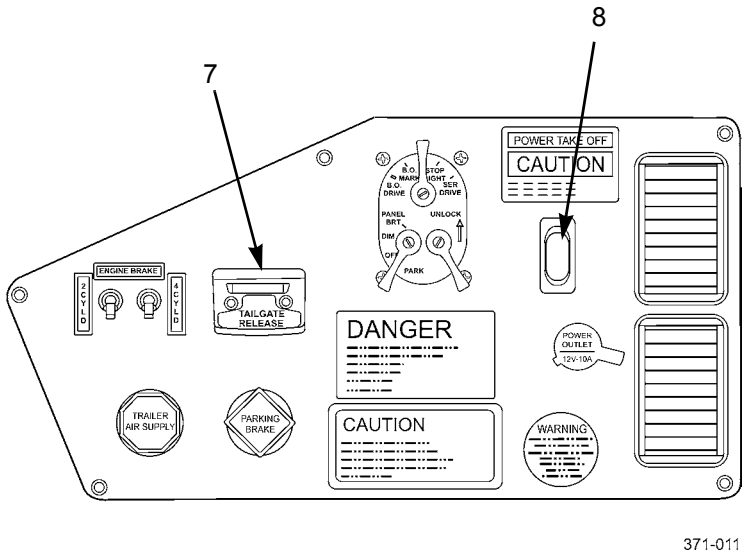


M917A1

Key	Control or Indicator	Function
1	Hydraulic Control Lever	Raises and lowers dump body. Squeeze T-handle together and pull lever back to UP position to raise dump body. Push lever forward to DOWN position to lower dump body. Place in N (Neutral) detent position to stop dump body movement. Lever will not operate to raise dump body if main light switch is in blackout mode.
2	MCS Control Unit (M917A1 w/MCS and M917A2 w/MCS)	Four toggle switches control LEFT, LEFT CENTER, RIGHT CENTER, and RIGHT MCS gates. Move switch(es) forward to OPEN position and rearward to CLOSE position.
3	MCS Indicator Light (M917A1 w/MCS and M917A2 w/MCS)	Red light indicates MCS has power.

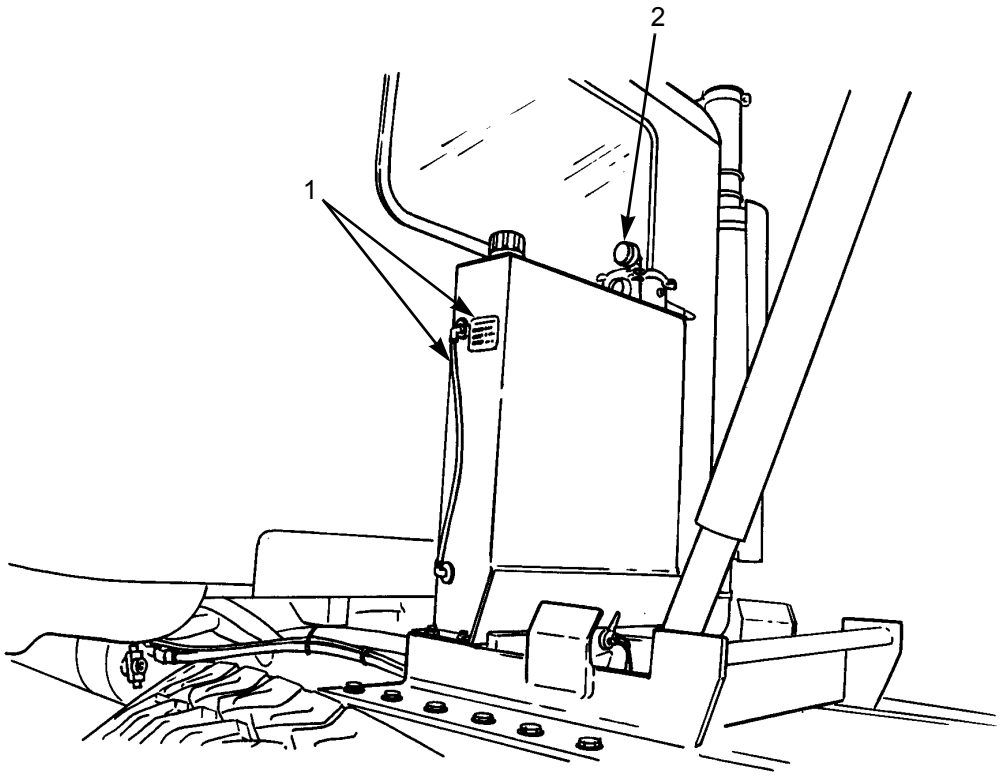
2-1. CAB-MOUNTED CONTROLS AND INDICATORS (Con't).





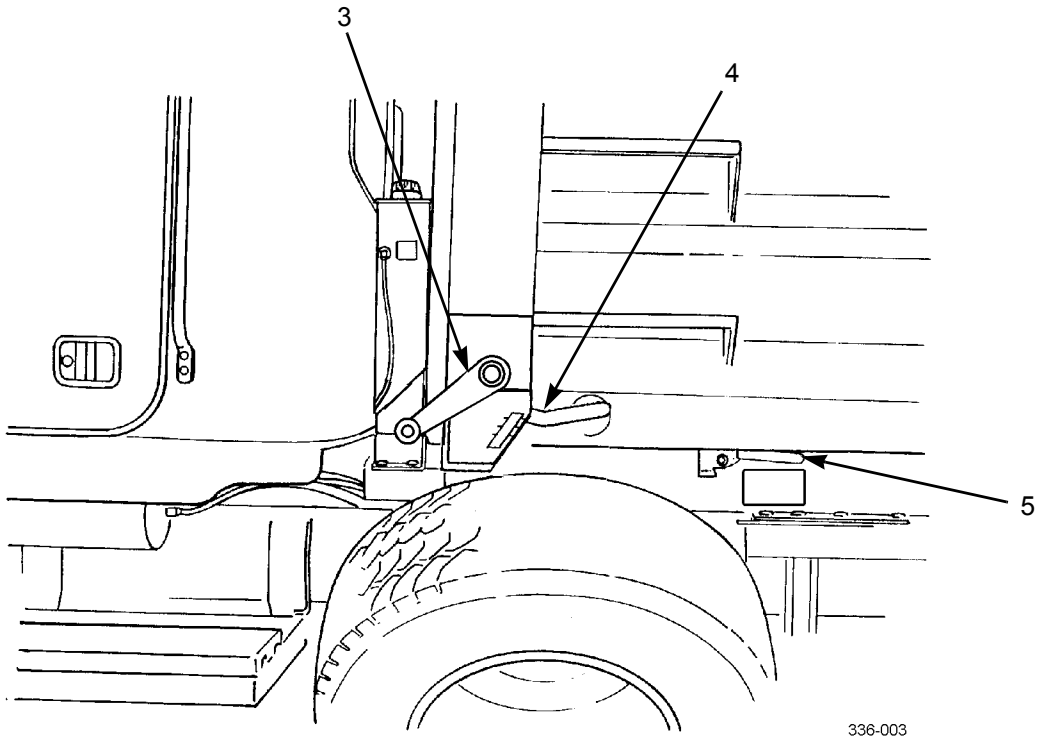
Key	Control or Indicators	Function
4	Reduce MPH Indicator Light	Red light comes on when vehicle is traveling too fast for tire pressure selected on CTIS.
5	Body Up Indicator Light	Red light comes on when dump body is raised. Turns off when dump body is down and in contact with truck frame.
6	Body (Transport) Lock Indicator Light	Red light comes on when dump body is locked to truck frame in preparation for dump truck transport. Alerts driver that dump body will not raise.
7	Tailgate Release Control Valve Lever	Air-activated lever controls tailgate release air cylinder to unlock and lock tailgate. Left position is UNLOCK; right position is LOCK.
8	PTO Switch	Engages PTO when turned ON. PTO will not operate unless main light switch is in SER DRIVE or STOP LIGHT position. Light in switch comes on when PTO is ON.

2-2. EXTERNAL CONTROLS AND INDICATORS.



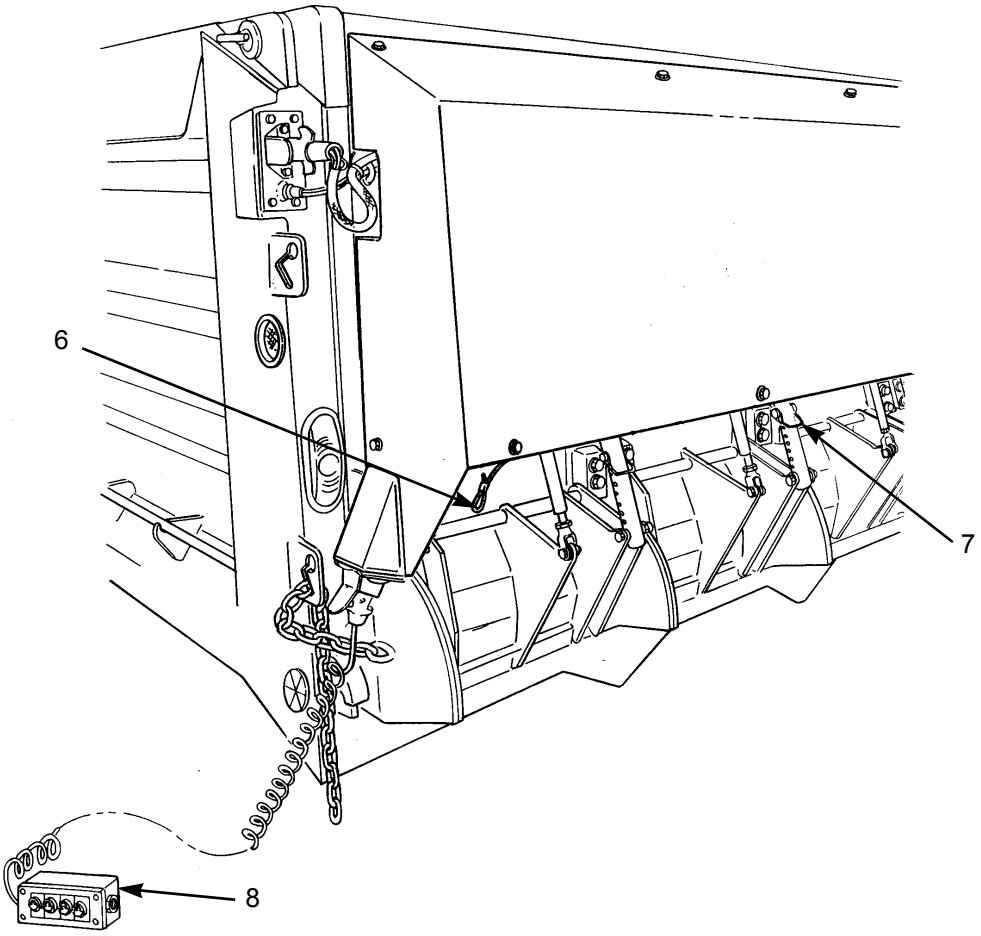
Key	Control or Indicators	Function
1	Hydraulic Reservoir Sight Tube and Oil Level Decal	Sight tube shows level of hydraulic fluid in reservoir. Oil level decal is marked FULL, ADD 2 QTS, and ADD 1 GAL.
2	Hydraulic Filter Service Indicator Gage	Indicates serviceability of hydraulic filter.

2-2. EXTERNAL CONTROLS AND INDICATORS (Con't).



Key	Control or Indicators	Function
3	Cargo Cover Crank Handle	Turn clockwise to retract cargo cover and uncover load. When not in use, handle is stowed in storage pouch and placed in BII box.
4	Cargo Cover Control Handle	Provides braking action for cargo cover as it extends to cover load. Positions are LOCK, RELEASE, and BRAKE.
5	Transport Lock	Locks dump body to truck frame. Unlocked during normal operation. Locked for transporting of dump truck. Unlocked position is at 3 o'clock. Locked position is at 6 o'clock. A locking pin holds transport lock in desired position.

2-2. EXTERNAL CONTROLS AND INDICATORS (Con't).



Key	Control or Indicators	Function
6	MCS Air Reservoir Cable Pull (M917A1 w/MCS and M917A2 w/MCS)	Drains MCS air reservoir, when pulled.
7	Adjustment Tube Locking Pin (M917A1 w/MCS and M917A2 w/MCS)	Controls amount of MCS gate opening. The lower the pin placement, the larger the gate opening. Top pin placement locks gate closed.
8	MCS Remote Control (M917A1 w/MCS and M917A2 w/MCS)	Plugs into receptacle at left or right of MCS tailgate. Four toggle switches control LEFT, LEFT CENTER, RIGHT CENTER, and RIGHT MCS gates. Move switch(es) to OPEN or CLOSED positions. When not in use, remote control is stowed in storage pouch and placed in BII box.

Section II. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Paragraph Number	Paragraph Title	Page Number
2-3.	General	2-7
2-4.	Explanation of Table Entries	2-7
2-5.	General PMCS Procedures	2-8
Table 2-1.	Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2 and M917A2 w/MCS Dump Body	2-10

2-3. GENERAL.

NOTE

Refer to TM 9-2320-363-10 or TM 9-2320-302-10 for Operator PMCS for the dump truck chassis.

To ensure that the dump truck is ready for operation at all times, it must be inspected on a regular basis so that defects may be found and corrected before they result in serious damage, equipment failure, or injury to personnel. Table 2-1 contains systematic instructions on inspections, adjustments, and corrections to be performed by the operator/crew to keep your equipment in good operating condition and ready for its primary mission.

2-4. EXPLANATION OF TABLE ENTRIES.

a. **Item Number (Item No.) Column.** Numbers in this column are for reference. When completing DA Form 2404 *(Equipment Inspection and Maintenance Worksheet)*, include the item number for the check/service indicating a fault. Item numbers also appear in the order that you must perform checks and services for the interval listed.

b. **Interval Column.** This column tells you when you must perform the procedure in the procedure column.

(1) *Before* procedures must be done before you operate the dump truck.

(2) *During* procedures must be done while you are operating the dump truck.

(3) *After* procedures must be done immediately after you have operated the dump truck.

(4) *Weekly* procedures must be done once each week.

(5) *Monthly* procedures must be done once each month.

c. **Location, Item to Check/Service Column.** This column provides the location and item to be checked or serviced.

NOTE

The WARNINGs and CAUTIONs appearing in your PMCS table should always be observed. WARNINGs and CAUTIONs appear before applicable procedures. You must observe these WARNINGs to prevent serious injury to yourself and others, and CAUTIONs to prevent your equipment from being damaged.

d. **Procedure Column.** This column gives the procedure you must perform to check or service the item listed in the Item to Check/Service column to know if the equipment is ready or available for its intended mission or for operation. You must perform the procedure at the time stated in the interval column.

2-4. EXPLANATION OF TABLE ENTRIES (Con't).

e. **Not Fully Mission Capable If: Column.** Information in this column tells you what faults will keep your equipment from being capable of performing its primary mission. If you make check and service procedures that show faults listed in this column, do not operate the equipment. Follow standard operating procedures for maintaining the equipment or reporting equipment failure.

2-5. GENERAL PMCS PROCEDURES.

a. Always perform PMCS in the same order so it gets to be a habit. Once you've had some practice, you'll spot anything wrong in a hurry. If the dump truck does not perform as required, refer to the appropriate troubleshooting procedure in Chapter 3, Section II.

b. If anything looks wrong and you can't fix it, write it on your DA Form 2404. If you find something seriously wrong, IMMEDIATELY report it to your supervisor.

c. Before performing preventive maintenance, read all the checks required for the applicable interval and prepare all the tools you need to make all the checks. You'll always need a rag (Item 16, Appendix F) or two.

WARNING

Dry cleaning solvent MIL-PRF-680 Type III is an environmentally compliant and low toxic material. However, it may be irritating to the eyes and skin. The use of protective gloves and goggles is suggested. Use in well-ventilated area. Keep away from open flame and other sources of ignition.

(1) **Keep It Clean.** Dirt, grease, oil, and debris get in the way and may cover up a serious problem. Clean as you work and as needed. Use dry cleaning solvent (Item 5, Appendix F) on all metal surfaces. Use detergent (Item 9, Appendix F) and water when you clean rubber or plastic.

(2) **Deterioration, Rust, and Corrosion.**

(a) Be alert for deterioration of plastic and rubber materials. Report it to your supervisor.

(b) Check metal parts of vehicle for rust and corrosion. If any bare metal or corrosion exists, clean and apply a light coat of oil (Item 15, Appendix F). Report it to your supervisor.

(3) **Bolts, Nuts, and Screws.** Check bolts, nuts, and screws for obvious looseness, missing, bent, or broken condition. You can't try them all with a tool, of course, but look for chipped paint, bare metal, or rust around bolt heads. If you find one you think is loose, report it to your supervisor.

(4) **Welds.** Look for loose or chipped paint, rust, or gaps where parts are welded together. If you find a bad weld, report it to your supervisor.

(5) **Electric Wires and Connectors.** Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connectors and ensure that the wires are in good condition.

2-5. GENERAL PMCS PROCEDURES (Con't).

(6) **Hoses and Fluid Lines.** Look for wear, damage, and signs of leaks. Ensure that clamps and fittings are tight. Wet spots indicate leaks, of course, but a stain around a fitting or connector can also mean a leak. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, report it to your supervisor.

(7) **Fluid Leakage.** It is necessary for you to know how fluid leakage affects the status of your dump truck. The following are definitions of the types/classes of leakage you need to know to be able to determine the status of your equipment. Learn and be familiar with them, and remember - when it doubt, notify your supervisor.

Leakage Definitions for PMCS

Class I	Leakage indicated by wetness or discoloration, but not great enough to form drops.
Class II	Leakage great enough to form drops, but not enough to cause drops to drip from the item being checked/inspected.
Class III	Leakage great enough to form drops that fall from the item being checked/ inspected.

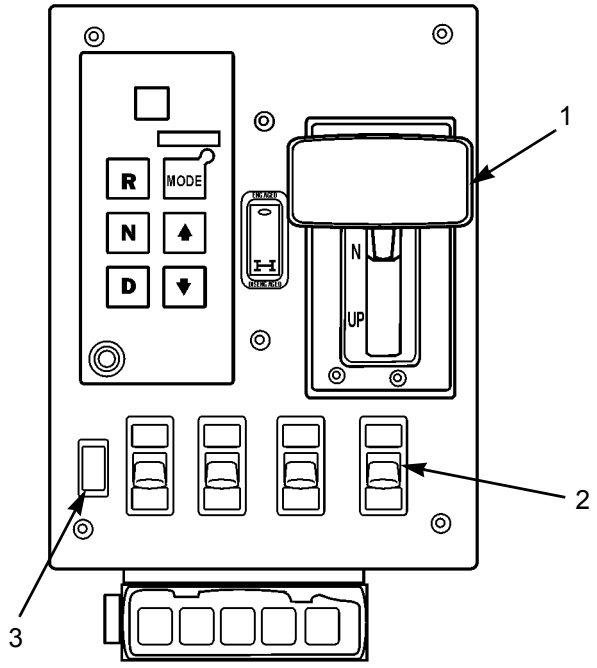
Operation is allowable with Class I and Class II leakage. WHEN IN DOUBT, NOTIFY YOUR SUPERVISOR. When operating with Class I or Class II leaks, check fluid levels more frequently. Class III leaks must be reported immediately to your supervisor. Failure to do this will result in damage to vehicle and/or components.

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body.

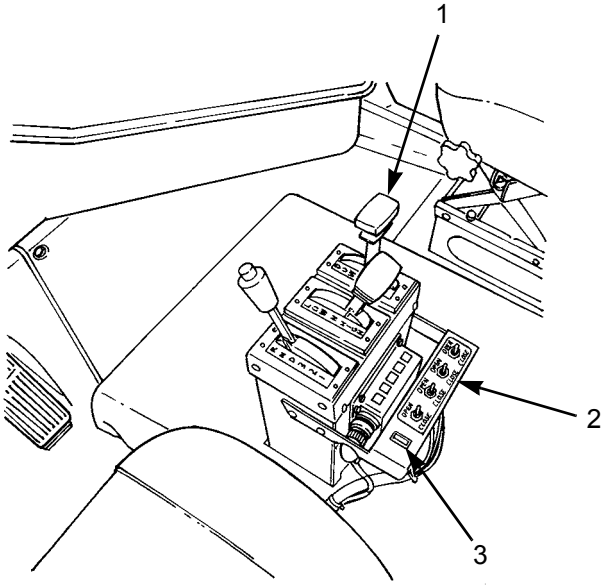
Item No.	Interval	Location / Item To Check/ Service	Procedure	Not Fully Mission Capable If:
			WARNING **Unless otherwise specified, perform all preventive maintenance checks with dump truck on level ground, transmission in N (Neutral), parking brake set, and engine off. Failure to follow this warning may result in personnel injury.** **NOTE** • **Review all WARNINGs, CAUTIONs, and NOTEs before performing PMCS and operating the dump truck.** • **Perform all PMCS checks if:** a. **You are the assigned operator but have not operated the dump truck since the last Weekly inspection.** b. **You are operating the dump truck for the first time.**	
		FRONT AND LEFT SIDE		
1	**Before**	**Overall View**	Check under vehicle for evidence of hydraulic fluid leakage.	Class III hydraulic fluid leaks are evident.
		INSIDE CAB		
2	**Before**	**Cargo Cover Crank Handle**	Check that crank handle is stowed in storage pouch in BII box.	

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

Item No.	Interval	Location / Item To Check/ Service	Procedure	Not Fully Mission Capable If:
3	Before	Startup	**NOTE** **Dump truck's chassis air system controls both models' tailgate locking mechanism and supplies air to the M917A1 w/MCS and M917A2 w/MCS tailgate.** a. Start engine and fully pressurize air system (TM 9-2320-363-10 or TM 9-2320-302-10). b. Listen for air leaks on chassis and at rear of dump body.	b. Air leakage is evident.
4	During	Dump Body Controls and Indicators	a. Check hydraulic control lever (1), MCS control unit (2), and indicator light (3) (M917A1 w/MCS and M917A2 w/MCS) for proper operation.	a. Hydraulic control lever malfunctions. MCS control unit malfunctions and is required for mission.



M917A2

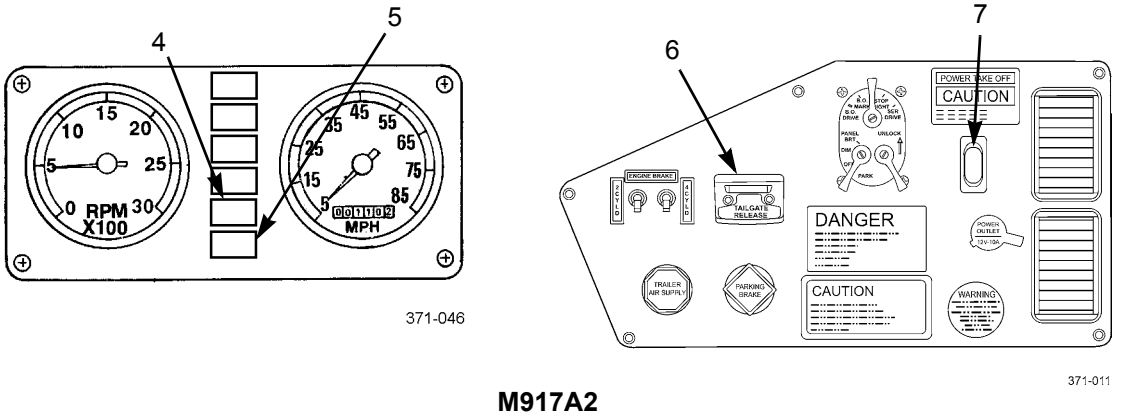


M917A1

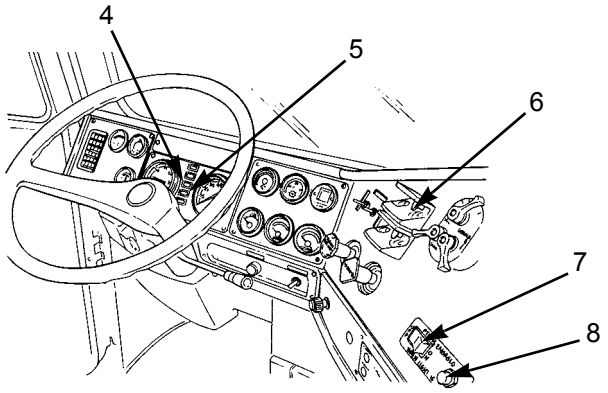
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Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

Item No.	Interval	Location / Item To Check/ Service	Procedure	Not Fully Mission Capable If:
4 (Con't)	**During**	**Dump Body Controls and Indicators**	b. Monitor body up and body (transport) lock indicator lights (4 and 5), tailgate release control valve lever (6), and PTO switch (7) for proper operation.	b. Any indicator light or dump body control malfunctions.



M917A2



M917A1

5	**During**	**Overall Leakage** **FRONT AND <u>LEFT SIDE</u>**	Be alert for evidence of hydraulic fluid leakage. **NOTE** **Begin <u>After</u> PMCS checks with dump body lowered and engine off.**	Class III hydraulic fluid leaks are evident.
6	**After**	**Overall View**	a. Check under vehicle for evidence of hydraulic fluid leakage.	a. Class III hydraulic fluid leaks are evident.

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

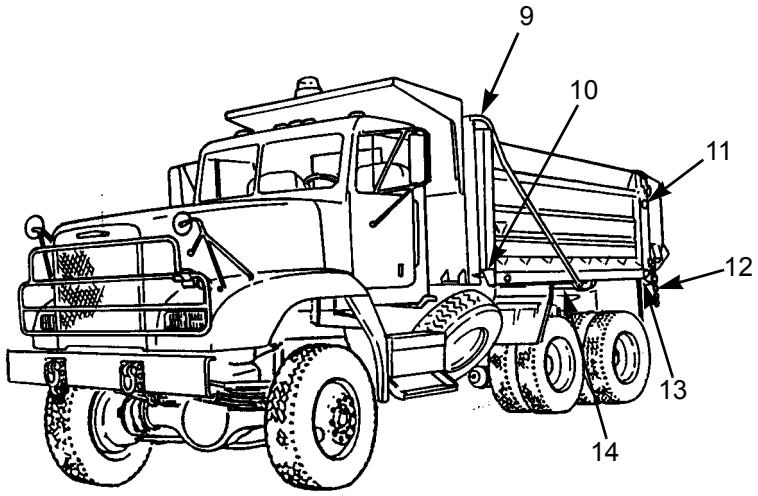
Item No.	Interval	Location / Item To Check/ Service	Procedure	Not Fully Mission Capable If:
6 (Con't)	**After**	**Overall View**	b. Check dump body for obvious damage that would impair operation: e.g., missing or damaged cargo cover controls (10), marker clearance light (11), body prop (14), and adjustment chain (12) at tailgate.	b. Damage that would impair operation is evident.
				
7	**After**	**Transport Lock**	Check that transport lock (15) is at 3 o'clock UNLOCKED position. If locked, remove pin (16), move transport lock counterclockwise to 3 o'clock position, and reinstall pin.	

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

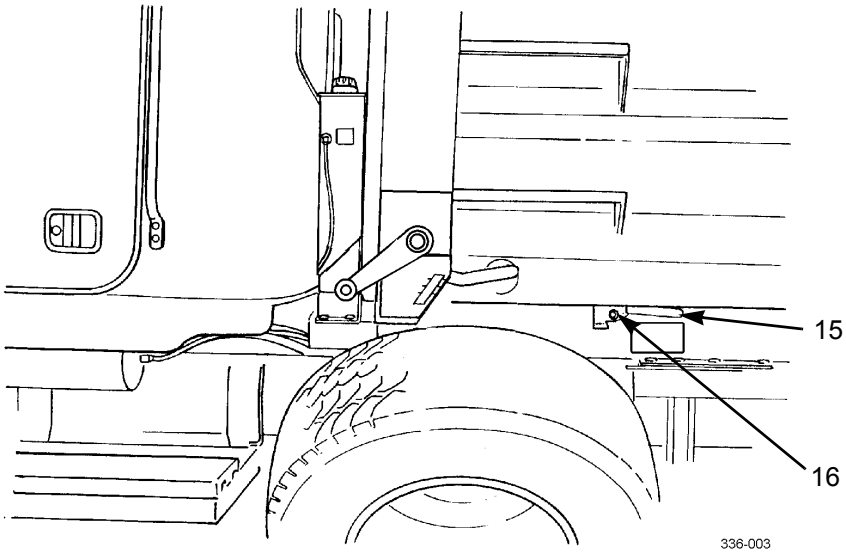
Item No.	Interval	Location / Item To Check/ Service	Procedure	Not Fully Mission Capable If:
7 (Con't)	After	Transport Lock		
8	After	Cargo Cover	a. Operate cargo cover controls (10) and check for smooth operation (paragraph 2-14). b. Inspect cargo cover for looseness of mounting to support frame (9), and cuts or tears to cover. Inspect support frame for damage. c. After operating cargo cover controls (10), ensure that crank handle is stowed in storage pouch in BII box.	a. Cargo cover does not extend or retract properly. b. Cargo cover mounting is loose or cover is cut or torn. Support frame is damaged.
9	After	Tailgate Locking Linkage	Check for damage to tailgate locking linkage (13).	Tailgate locking linkage is damaged.

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

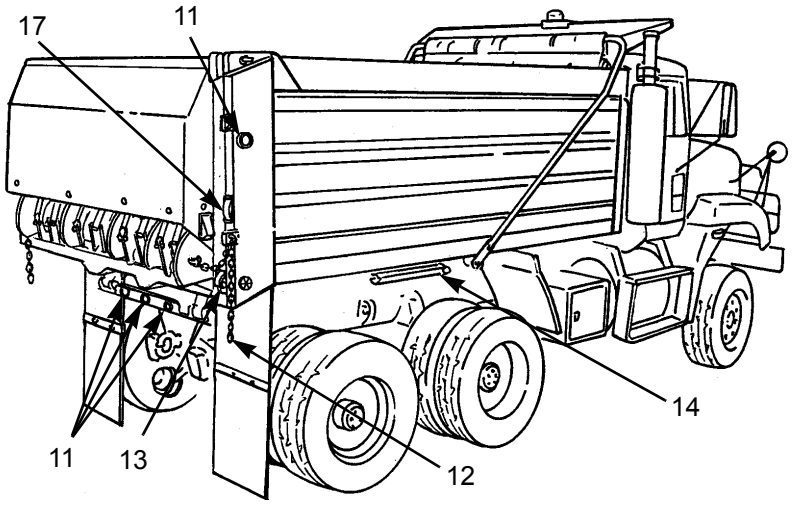
Item No.	Interval	Location / Item To Check/ Service	Procedure	Not Fully Mission Capable If:
		REAR AND RIGHT SIDE		
10	**After**	**Overall View**	a. Check under vehicle for evidence of hydraulic fluid leakage. b. Check dump body for obvious damage that would impair operation: e.g., missing or damaged marker clearance lights (11), taillight (17), body prop (14), and adjustment chain (12) at tailgate.	a. Class III hydraulic fluid leaks are evident. b. Damage that would impair operation is evident.
				
11	**After**	**Tailgate Locking Linkage**	Check for damage to tailgate locking linkage (13). **NOTE** **Perform the following <u>After</u> PMCS checks with engine on and air system fully pressurized.**	Tailgate locking linkage is damaged.
12	**After**	**Tailgate Release Lever**	Operate tailgate release control valve lever (6) inside cab (paragraph 2-1). Check that tailgate unlocks and locks properly.	Tailgate will not unlock or lock.

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

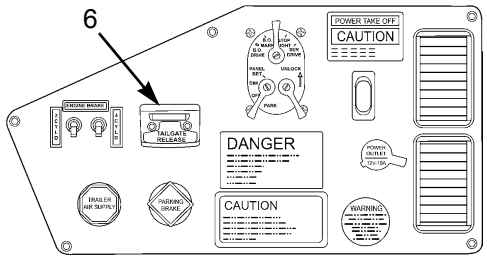
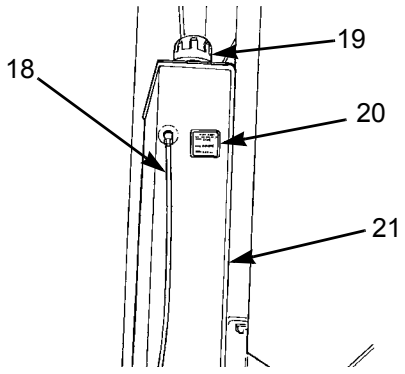
Item No.	Interval	Location / Item To Check/ Service	Procedure	Not Fully Mission Capable If:
12 (Con't)	After	Tailgate Release Lever	 **M917A2 Panel Shown** 371-011	
			WARNING **To prevent burns, use caution when removing fill cap of hydraulic reservoir when hydraulic fluid is hot. Avoid contact with hot hydraulic oil. Use extreme care when filling hydraulic reservoir. Failure to follow this warning may result in injury to personnel.**	
13	After	Hydraulic Reservoir	a. With engine off and dump body lowered, check sight tube (18) to determine level of hydraulic oil in reservoir (21). Level should be even with FULL mark on oil level decal (20). If level is low, remove fill cap (19). Remove any debris from strainer with a clean rag. Add oil (Item 13 or 14, Appendix F) through fill cap opening until level is even with FULL mark on decal. Install fill cap (Chapter 3, Section I).	
				

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

Item No.	Interval	Location Item To Check/ Service	Procedure	Not Fully Mission Capable If:
13 (Con't)	**After**	**Hydraulic Reservoir**	b. Run engine at idle speed and engage PTO (TM 9-2320-363-10 or TM 9-2320-302-10). Check filter service indicator gage (22). If gage needle is in RED zone, hydraulic oil filter element needs replacing. Notify your supervisor.	

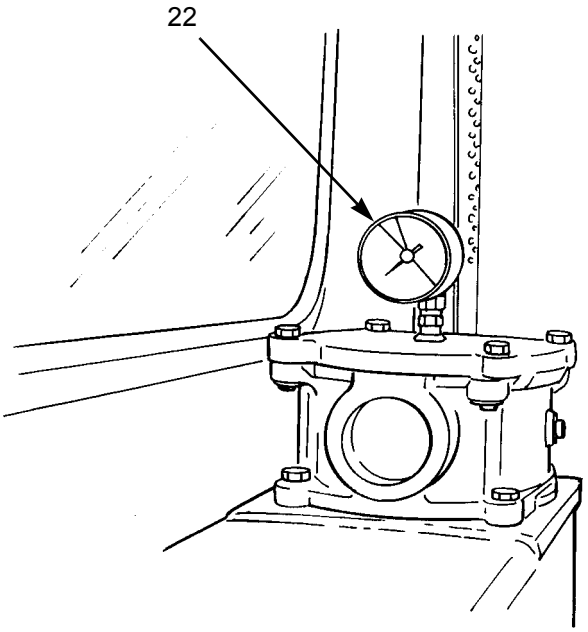


Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

Item No.	Interval	Location Item To Check/ Service	Procedure	Not Fully Mission Capable If:
14	**After**	**MCS Tailgate (M917A1 w/MCS and M917A2 w/MCS)**	a. Remove locking pins (24) from top hole in adjustment tubes (25) and place in bottom hole.	

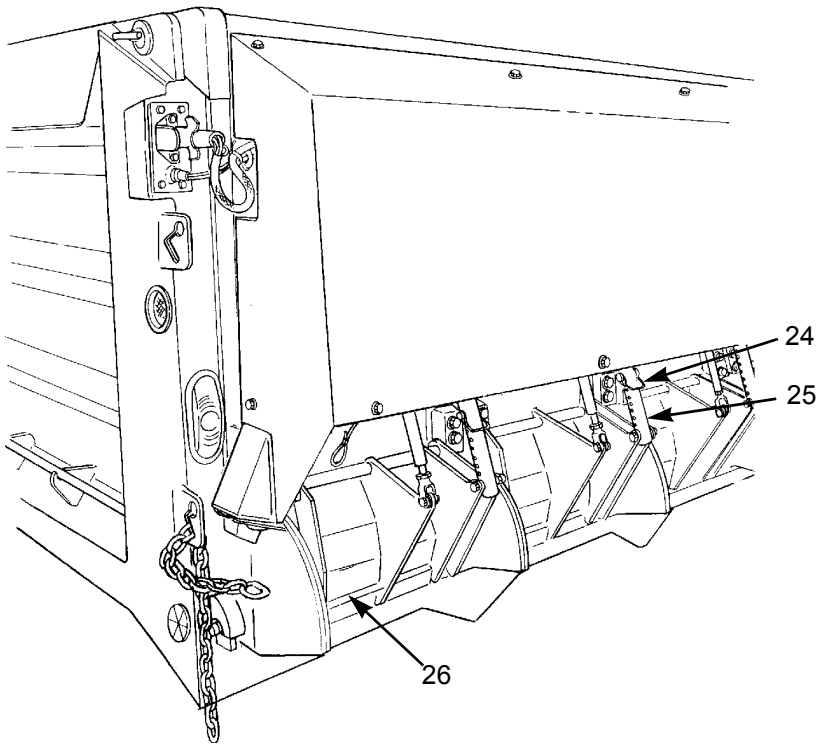
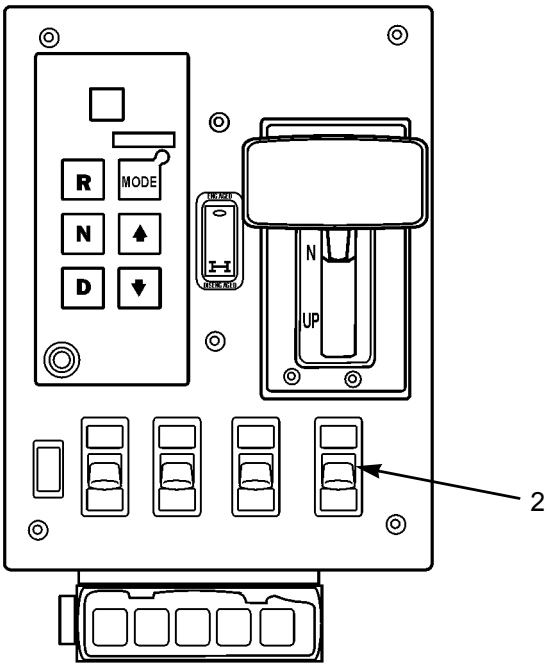
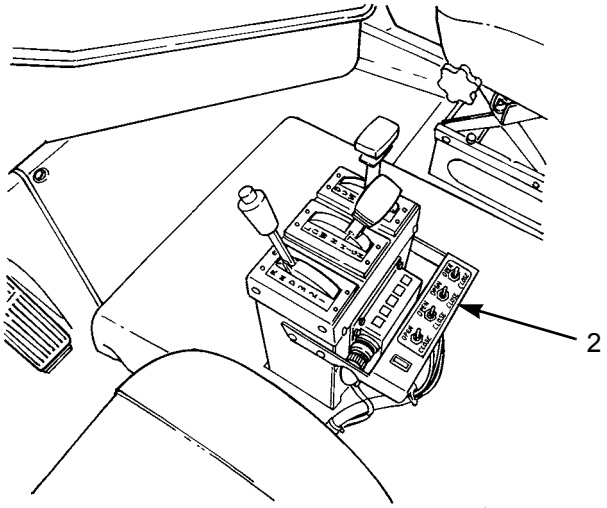


Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

Item No.	Interval	Location / Item To Check/ Service	Procedure	Not Fully Mission Capable If:
14 (Con't)	**After**	**MCS Tailgate (M917A1 w/MCS and M917A2 w/MCS)**	b. Operate MCS control unit (2) inside cab (paragraph 2-1). Check that appropriate MCS gate (26) opens and closes as each toggle switch is operated.	b. MCS control unit does not open or close gates and is required for mission.



M917A2



M917A1

371-031

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

Item No.	Interval	Location / Item To Check/ Service	Procedure	Not Fully Mission Capable If:
14 (Con't)	**After**	**MCS Tailgate (M917A1 w/MCS and M917A2 w/MCS)**	**WARNING** **When connected, MCS remote control overrides cab control unit. When remote control is disconnected, cab control activates. To avoid inadvertent opening or closing of gates, ALWAYS check gate positions and position of toggle switches on both cab and remote controls before plugging in or unplugging remote control. Toggle switches should be in CLOSED position. Failure to follow this warning may cause personnel injury.** c. Plug MCS remote control (28) into receptacle (29) at either side of MCS tailgate (23). Check that appropriate MCS gate (26) opens and closes as each toggle switch (27) is operated. d. Remove locking pins (24) from bottom hole and install in top hole of adjustment tubes (25).	c. MCS remote control does not work and is required for mission.

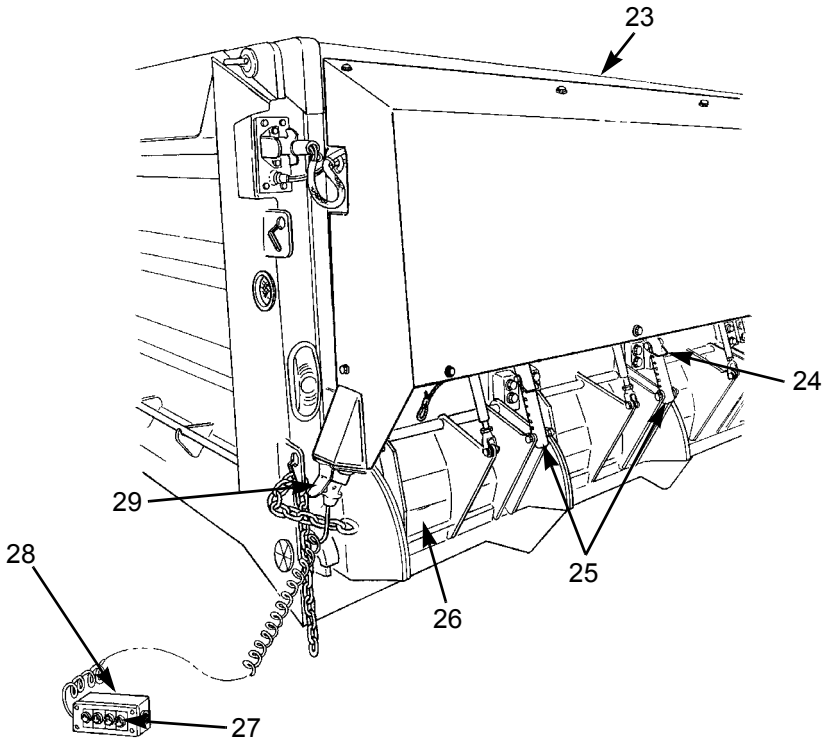


Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

Item No.	Interval	Location / Item To Check/ Service	Procedure	Not Fully Mission Capable If:
			WARNING **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.**	
15	After	**Body Props**	Raise dump body and support with body props (paragraph 2-15). Check that body props function properly and do not bind.	Body props are damaged or cannot be installed to safely support dump body.
			NOTE **Perform the following <u>After</u> PMCS check with engine off.**	
16	After	**Air Reservoir (M917A1 w/MCS and M917A2 w/MCS)**	Pull cable pull (30) and drain air reservoir. Release cable pull when all air has drained.	

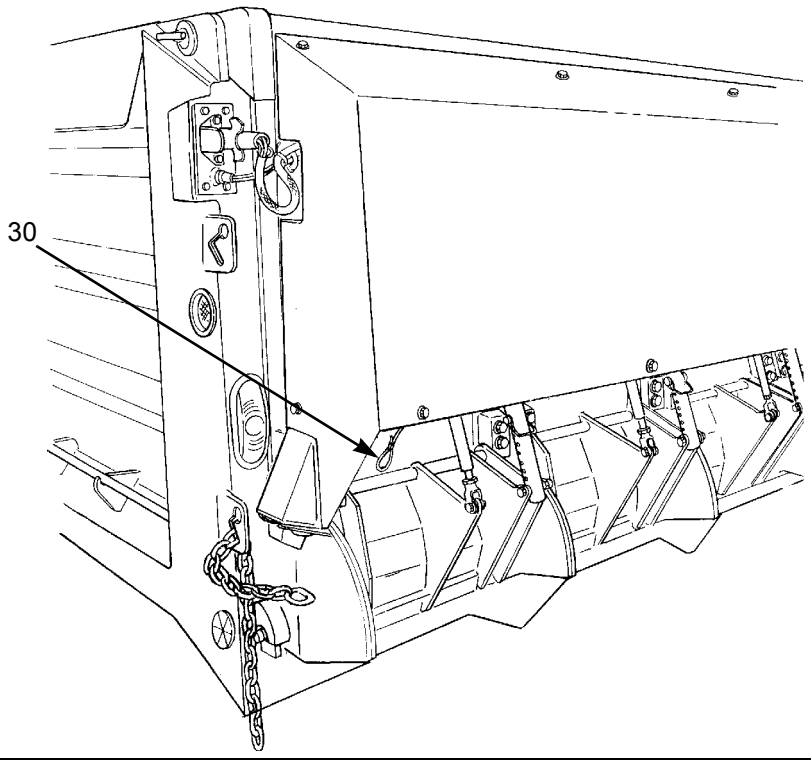


Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

Item No.	Interval	Location / Item To Check/ Service	Procedure	Not Fully Mission Capable If:
17	Weekly	Hydraulic System	**WARNING** **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.** a. Raise dump body and support with body props (paragraph 2-15). b. Inspect hydraulic cylinder (31), hydraulic reservoir (21), and hydraulic lines and fittings for loose mounting, leaks or damaged components. c. Remove body props and lower dump body (paragraph 2-15).	b. Damage to components or Class III hydraulic fluid leaks are evident.

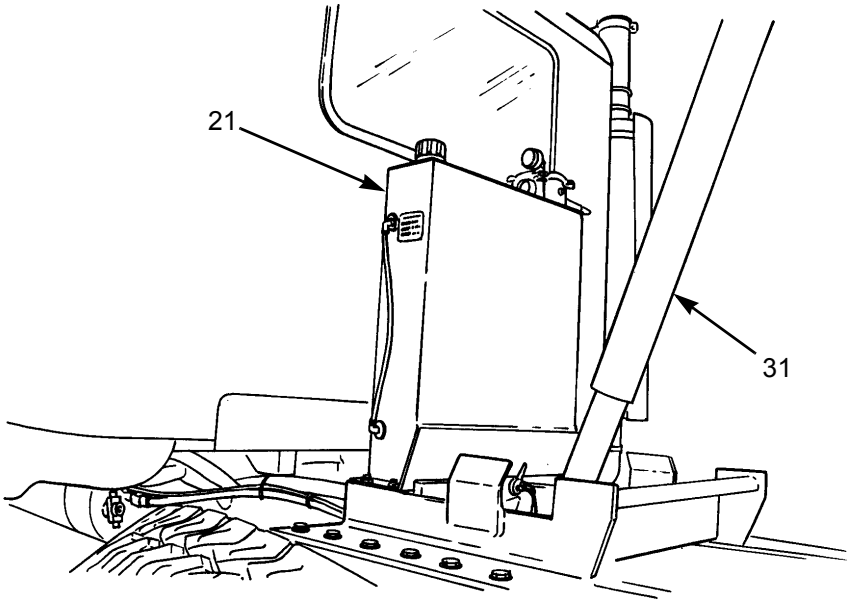


Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

Item No.	Interval	Location: Item To Check/ Service	Procedure	Not Fully Mission Capable If:
18	Monthly	Body Props	**WARNING** **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.** a. Raise dump body and support on body props (paragraph 2-15). b. Apply grease (Item 11, Appendix F) to grease fitting (32) on each body prop (14).	a. Body props are damaged or cannot be installed to safely support dump body.

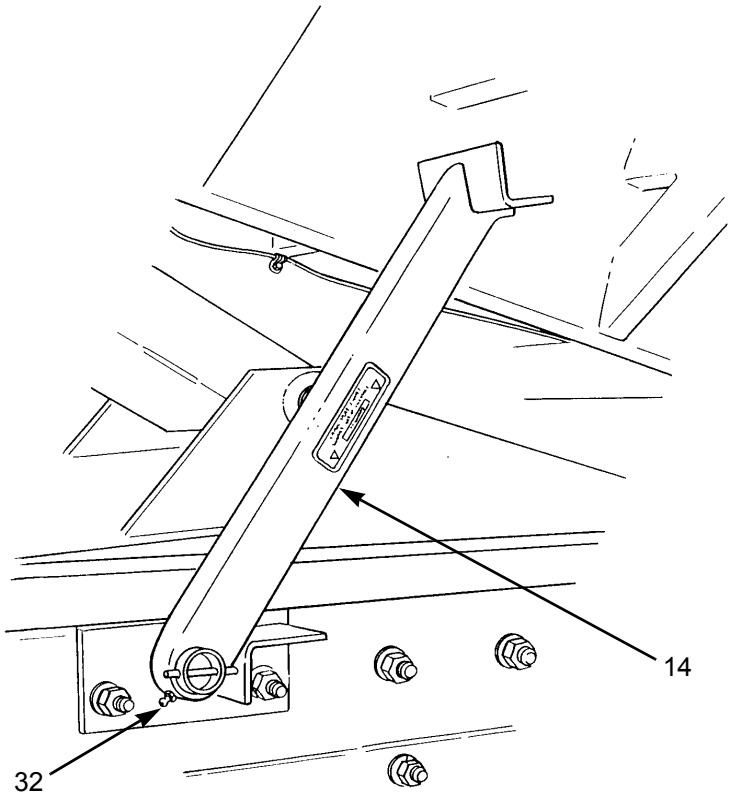


Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

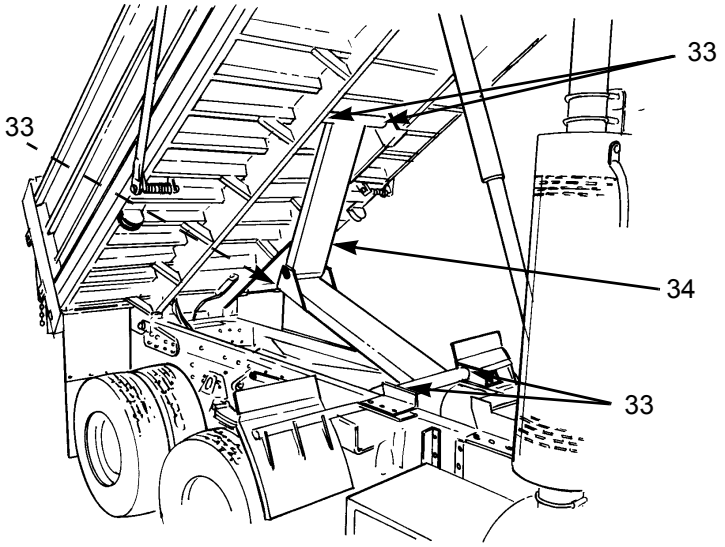
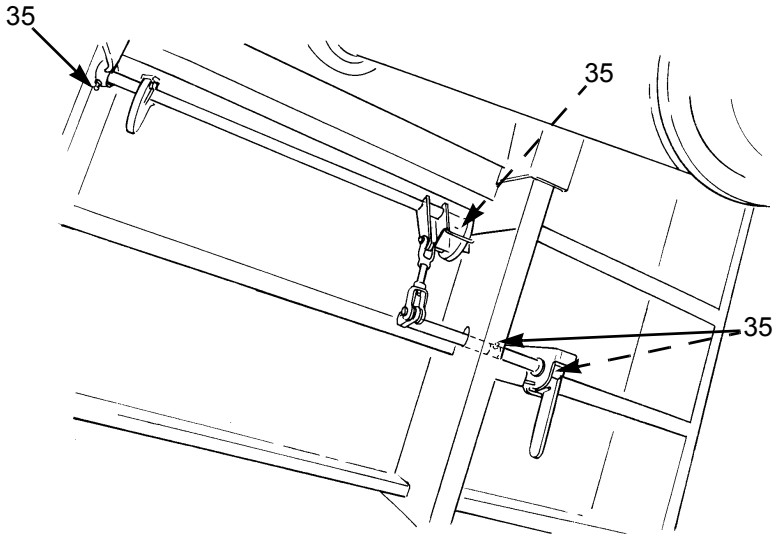
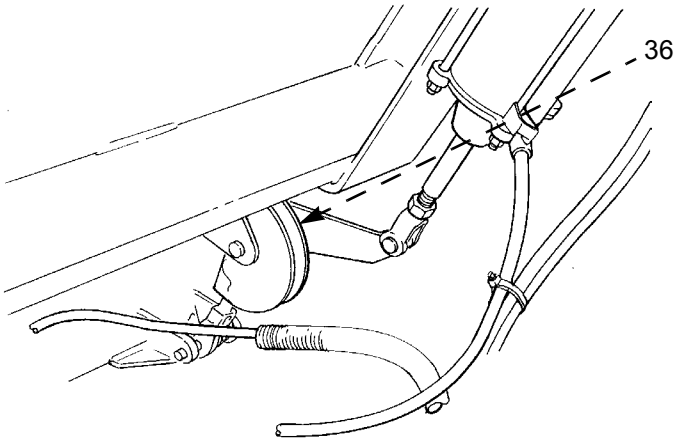
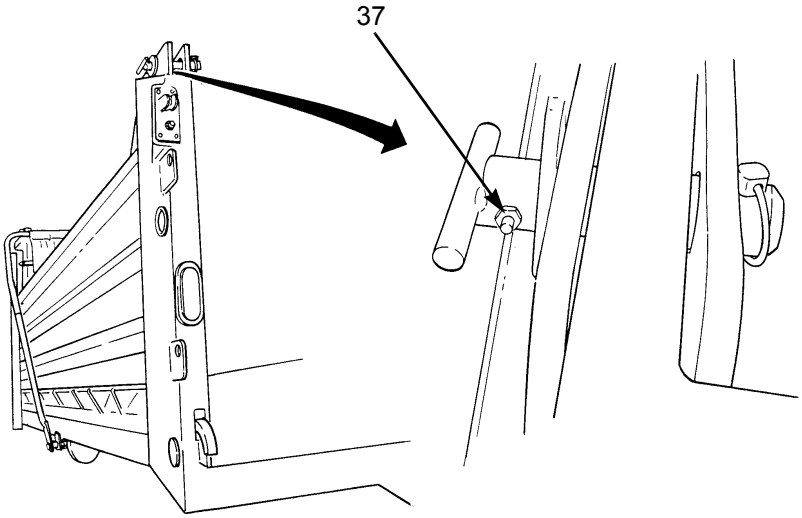
Item No.	Interval	Location / Item To Check/ Service	Procedure	Not Fully Mission Capable If:
19	Monthly	Stabilizer	Apply grease (Item 11, Appendix F) to five grease fittings (33) on stabilizer (34). There are two grease fittings at top and bottom crosses and one grease fitting at center hinge.	
				
20	Monthly	Transport Lock	Apply grease (Item 11, Appendix F) to four transport lock grease fittings (35).	
				

Table 2-1. Operator Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Body (Con't).

Item No.	Interval	Location / Item To Check/ Service	Procedure	Not Fully Mission Capable If:
21	Monthly	**Tailgate Locking Linkage**	a. Apply grease (Item 11, Appendix F) to tailgate locking linkage grease fitting (36).	
				
			b. Remove body props and lower dump body (paragraph 2-15).	
22	Monthly	**Tailgate Hinge Pins**	Apply grease (Item 11, Appendix F) to each tailgate hinge pin grease fitting (37).	
				

Section III. OPERATION UNDER USUAL CONDITIONS

Paragraph Number	Paragraph Title	Page Number
2-6.	Scope	2-27
2-7.	Preparing to Load Dump Body	2-27
2-8.	Loading Dump Body	2-28
2-9.	Transporting Load	2-29
2-10.	Dumping Load	2-30
2-11.	Adjusting Tailgate Opening	2-36
2-12.	Adjusting MCS Gate Openings (M917A1 w/MCS and M917A2 w/MCS)	2-37
2-13.	Controlled Spreading (M917A1 w/MCS and M917A2 w/MCS)	2-38
2-14.	Operating Cargo Cover	2-40
2-15.	Operating Body Props	2-42

2-6. SCOPE.

NOTE

Refer to TM 9-2320-363-10 or TM 9-2320-302-10 for operating instructions for the dump truck chassis.

a. This section provides instructions on operating the M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS dump truck body under usual conditions.

b. Refer to Section IV of this chapter for operating instructions under unusual conditions.

c. Before, during, and after operation, perform applicable Operator PMCS (Chapter 2, Section II).

2-7. PREPARING TO LOAD DUMP BODY.

a. As required, clean dump body of material previously carried (paragraph 3-5).

b. Ensure that tailgate is closed (paragraph 2-1). If operating an M917A1 w/MCS or M917A2 w/MCS, ensure that MCS gates are closed (paragraph 2-1 or 2-2).

c. With engine running, ensure that dump body is fully lowered by checking body up indicator light on instrument panel (paragraph 2-1). Light must be off. Lower dump body, if raised (paragraph 2-10).

WARNING

DO NOT park on a slope. Park on level ground only. Parking on a slope could cause load to shift and dump truck to tip over. Failure to follow this warning may result in death or injury to personnel or damage to equipment.

d. Position dump body for loading:

(1) Position dump truck on firm level ground at a location convenient for loading.

(2) If dump body is to be loaded using a hopper, check clearance before pulling under hopper. Position dump truck with hopper above center of dump body.

2-7. PREPARING TO LOAD DUMP BODY (Con't).

WARNING

- **Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.**

- **Dump body side boards weigh approximately 65 lb (30 kg) each. Two personnel are required to install or remove side boards. Failure to follow this warning may cause injury to personnel.**

NOTE

Dump truck operator should get assistance from loading vehicle operator to remove dump body side boards.

(3) Remove dump body side boards, if necessary.

WARNING

Ensure that parking brake is set before loading dump truck (TM 9-2320-363-10 or TM 9-2320-302-10). If parking brake is not set, dump truck could roll or shift position. Failure to follow this warning may result in death or injury to personnel or damage to equipment.

e. Set parking brake (TM 9-2320-363-10 or TM 9-2320-302-10).

f. Disengage PTO, if engaged (TM 9-2320-363-10 or TM 9-2320-302-10).

2-8. LOADING DUMP BODY.

WARNING

- **Stand clear of dump body during loading operation. Material being loaded could fall on personnel standing too close. Failure to follow this warning may result in death or injury to personnel.**

- **Hearing protection is required when performing loading operations. Failure to follow this warning may result in injury to personnel.**

a. Clear all personnel from around dump truck.

2-8. LOADING DUMP BODY (Con't).

CAUTION

Load dump body evenly. Material must not be heaped so high that it spills over sides of body. DO NOT overload. Failure to follow this caution may damage equipment.

b. Load dump body. Ensure that material is loaded evenly.

c. Cover load with cargo cover (paragraph 2-14).

2-9. TRANSPORTING LOAD.

CAUTION

DO NOT transport load with PTO engaged. Always disengage PTO when hydraulic power is no longer needed. If PTO is engaged while dump truck is transporting a load, severe damage to hydraulic pump, PTO or transmission will result.

a. Avoid sudden stops, turns or accelerations. This may cause load to shift.

b. During off-road operation, avoid terrain with side slope.

c. Use vehicle's CTIS to change tire pressures as road conditions change. Use CTIS in EMER (emergency) mode if dump truck becomes stuck (TM 9-2320-363-10 or TM 9-2320-302-10).

2-10. DUMPING LOAD.

WARNING

- **Hearing protection is required when performing dumping operations. Failure to follow this warning may result in injury to personnel.**
- **DO NOT attempt to dump in high wind. High winds may disperse aggregate. High winds may also cause dump truck to roll over when dump body is raised. Failure to follow this warning may result in death or injury to personnel or damage to equipment.**
- **Stay at controls while dumping. If dump body leans or shifts to one side, lower it immediately and check for one of the following:**
  - **underinflated or flat tires**
  - **tires sinking in soft soil**
  - **load shifting to one side of body**
  - **high or gusty wind**
  - **weak or broken leaf spring**

  If one of these or any other problems are found, do not continue dumping until the problem is corrected. Failure to follow this warning may result in death or injury to personnel or damage to equipment.
- **DO NOT spread or dump payload with dump truck facing a steep upgrade or a steep side slope. Dump truck may tip over backward or sideways. Failure to follow this warning may result in death or injury to personnel or damage to equipment.**
- **DO NOT park on a slope. Park on level ground only. Parking on a slope could cause load to shift and dump truck to tip over. Failure to follow this warning may result in death or injury to personnel or damage to equipment.**

NOTE

- **This paragraph describes dumping a load through the tailgate opening of either model dump truck.**
- **For instructions on controlled spreading using the M917A1 w/MCS and M917A2 w/MCS gates, refer to paragraph 2-13.**
- **Assistance is required for this operation. Driver inside cab operates dumping controls. Assistant driver monitors area around dump body.**

a. **Preparing to Dump.**

(1) Position dump truck on level ground. Set parking brake (TM 9-2320-363-10 or TM 9-2320-302-10).

(2) Walk around dump truck and check the following:

(a) Wheels are on firm level ground.

(b) Dump truck is not leaning to one side.

(c) Area behind tailgate is clear.

(d) Overhead clearance is sufficient.

(e) Transport lock is unlocked (3 o'clock position) (paragraph 2-2).

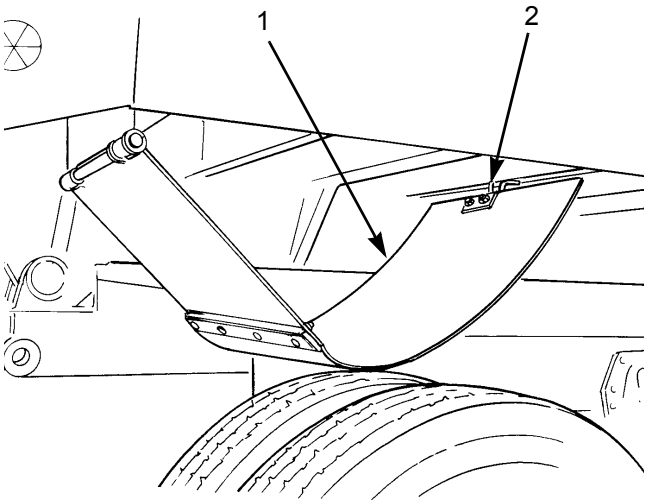
2-10. DUMPING LOAD (Con't).

(3) Secure mud flaps (1) out of way on hooks (2) when stockpiling or when dumping into a spreader.

CAUTION

Adjustment chains are intended for use only during spreading operations. If used when stockpiling, damage to chains or tailgate may result.

(4) Adjust tailgate opening if required (paragraph 2-11).



(5) Uncover load (paragraph 2-14).

(6) Start engine (TM 9-2320-363-10 or TM 9-2320-302-10).

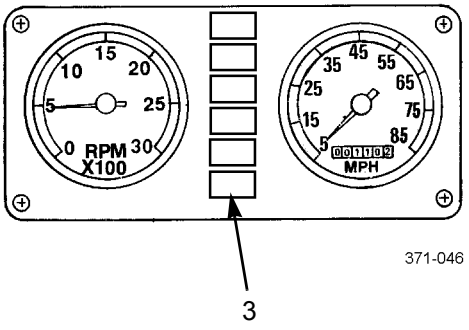
NOTE

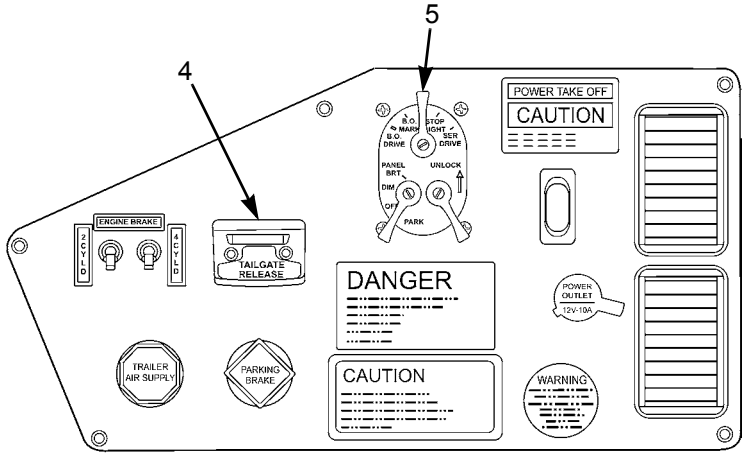
Dump body will not raise when main light switch is in blackout mode.

(7) Place main light switch (6) in SER DRIVE or STOP LIGHT position (TM 9-2320-363-10 or TM 9-2320-302-10).

(8) Engage PTO (TM 9-2320-363-10 or TM 9-2320-302-10).

(9) Check that body (transport) lock indicator light (3) is not lit. If lit, unlock transport lock (paragraph 2-2).





2-10. DUMPING LOAD (Con't).

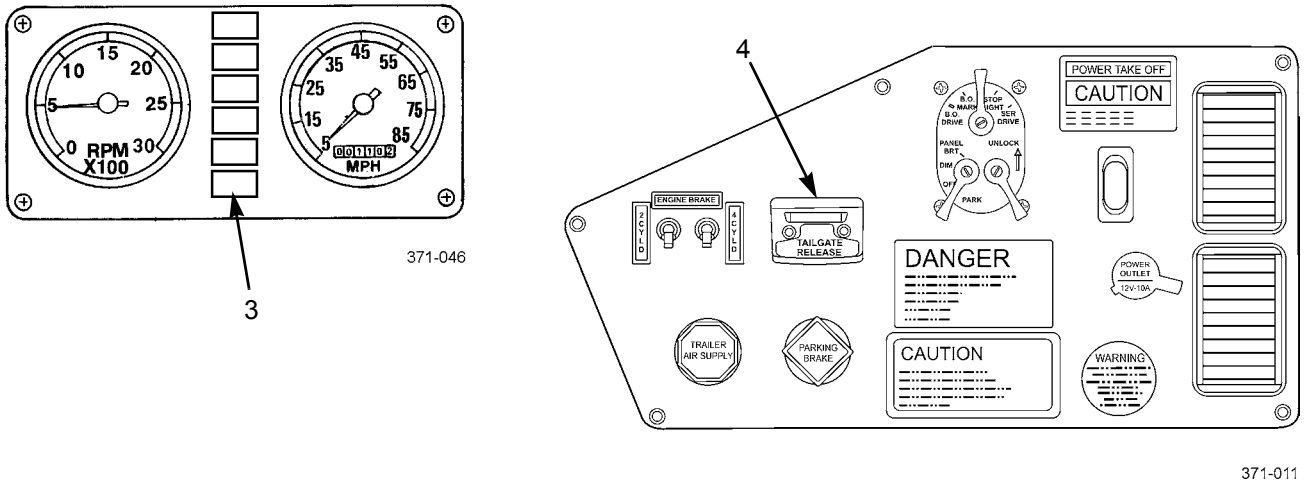
WARNING

NEVER unlock tailgate or operate MCS gates, or operate hydraulic control lever in cab without first ensuring that all personnel are clear of dump body. Failure to follow this warning may result in injury to personnel.

CAUTION

Ensure that tailgate latches are fully opened before raising dump body. Failure to follow this caution could result in damage to equipment.

(10) Slide tailgate release control valve lever (4) left to UNLOCK position. Check that tailgate is unlatched.



b. **Raising Dump Body.**

WARNING

- **NEVER raise dump body more than half way with tailgate or MCS tailgate closed. If dump body is raised fully without opening tailgate, dump truck center of gravity will shift rearward. Dump truck could tip, causing injury to personnel or damage to equipment.**
- **NEVER raise dump body without first checking for overhead obstructions such as trees and power lines. Ensure that overhead clearance is sufficient. Failure to follow this warning may cause death or injury to personnel.**

(1) Sound horn if tactical situation permits.

2-10. DUMPING LOAD (Con't).

NOTE

Speed of dump body movement when it is being raised may be controlled with accelerator pedal.

(2) Squeeze T-handle together and pull hydraulic control lever (6) back to UP position. Body up indicator light (3) should come on as dump body is raised.

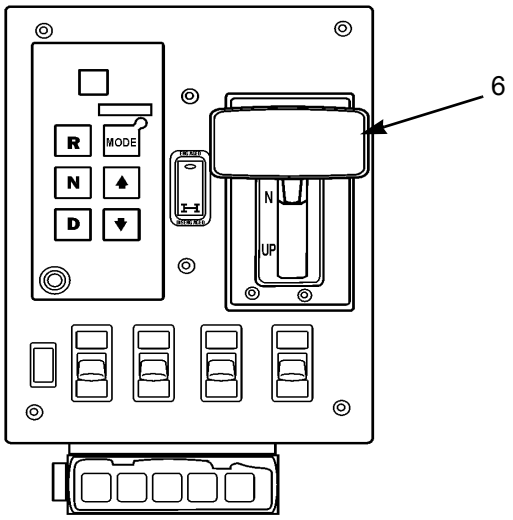
WARNING

DO NOT try to loosen a sticky load by pulling forward or backward and braking abruptly. Injury to personnel or damage to equipment may result.

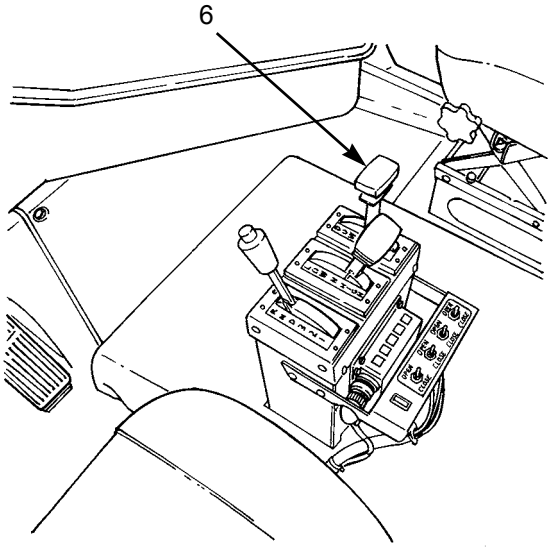
NOTE

Dump body will stop automatically when hydraulic cylinder is fully extended or when hydraulic control lever is placed in N (Neutral) position.

(3) Return hydraulic control lever (6) to N (Neutral) position when dump body is fully raised or has reached desired height.



M917A2



M917A1

371-031

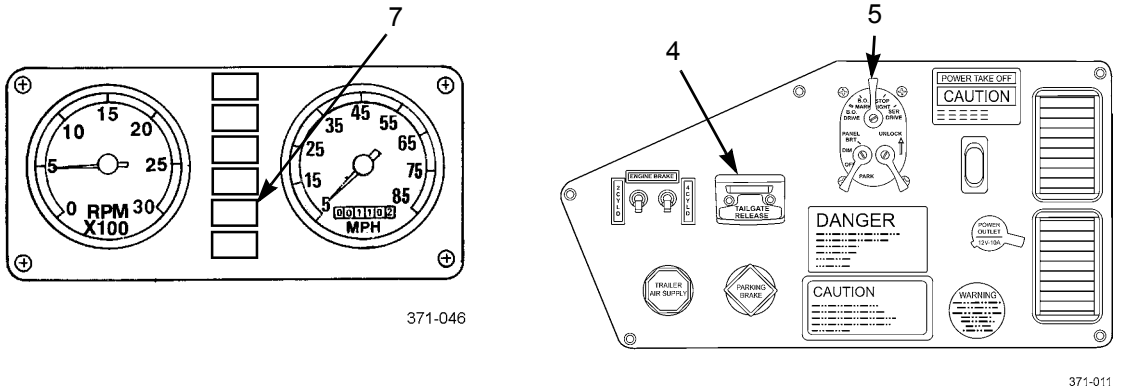
2-10. DUMPING LOAD (Con't).

c. **Lowering Dump Body.**

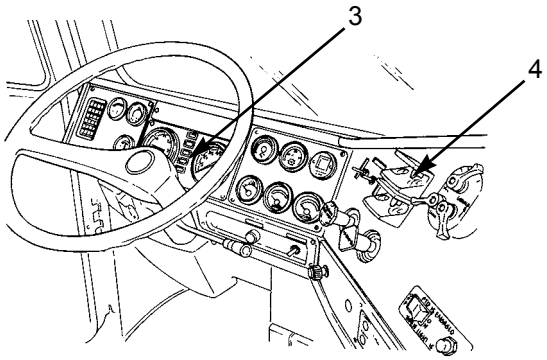
CAUTION

Dump body must be lowered onto truck frame with engine running at idle speed. Failure to follow this caution may damage hydraulic cylinder or dump body.

(1) With engine at idle speed, squeeze T-handle together and push hydraulic control lever (6) forward to DOWN position. Body up indicator light (7) should turn off when dump body contacts truck frame.



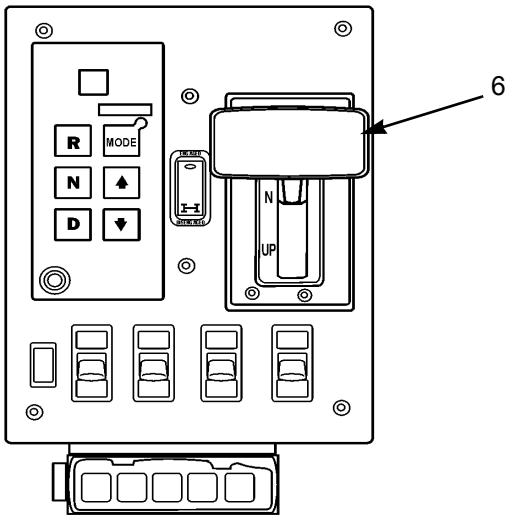
M917A2



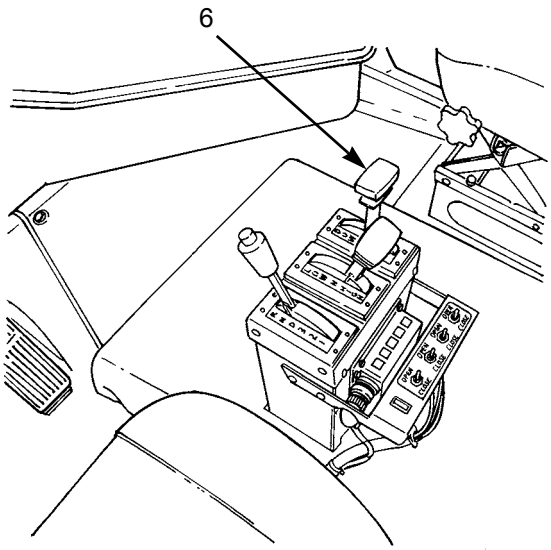
M917A1

2-10. DUMPING LOAD (Con't).

(2) Return hydraulic control lever (6) to N (Neutral) position.



M917A2



M917A1

371-031

d. **After Dumping.**

CAUTION

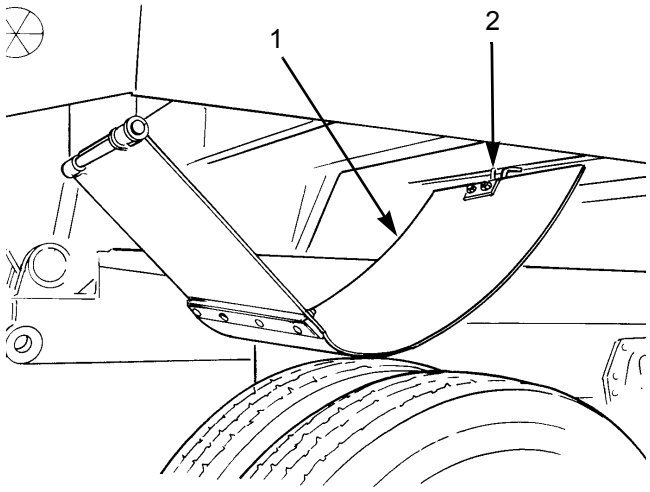
Always disengage PTO when hydraulic power is no longer needed. If PTO is engaged while dump truck is transporting a load, severe damage to hydraulic pump, PTO or transmission will result.

(1) Disengage PTO (TM 9-2320-363-10 or TM 9-2320-302-10).

(2) Turn off main light switch (5).

(3) Slide tailgate release control valve lever (4) right to LOCK position.

(4) As required, release mud flaps (1) from stowed position on hooks (2).



2-11. ADJUSTING TAILGATE OPENING.

WARNING

Use extreme caution when adjusting tailgate opening. NEVER adjust tailgate opening when tailgate is open. Failure to follow this warning could result in injury to personnel.

CAUTION

Adjustment chains are intended for use only during spreading operations. If used when stockpiling, damage to chains or tailgate may result.

NOTE

To reduce interference between tailgate chain and tailgate locking linkage, chain must pass through chain latch from the outside inward.

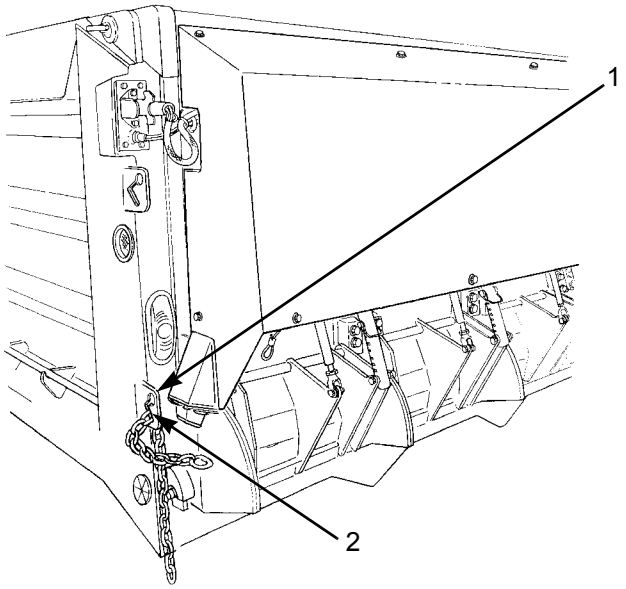
a. In preparation for dumping load, with tailgate closed, lift chain out of slot (2) of chain latch (1).

NOTE

Adjustment must be made equally on both sides of tailgate.

b. Lengthen or shorten chain length by pulling links through chain latch (1).

c. Secure adjustment by sliding chain into slot (2).



2-12. ADJUSTING MCS GATE OPENINGS (M917A1 W/MCS AND M917A2 W/MCS).

WARNING

- **Use extreme caution when adjusting MCS gate openings. NEVER adjust gate openings when gates are open. Failure to follow this warning could result in injury to personnel.**
- **Keep hands and feet away from gate openings at all times. Failure to follow this warning could result in injury to personnel.**

NOTE

Adjust MCS gate openings with engine on and MCS air system pressurized.

a. When dump truck is transporting a load or when it is parked, MCS gates must be kept locked. Gates are locked by placing locking pins (2) in top hole in adjustment tubes (1).

b. In preparation for controlled spreading, with dump body down and MCS gates closed, remove locking pins (2) from top hole in adjustment tubes (1).

CAUTION

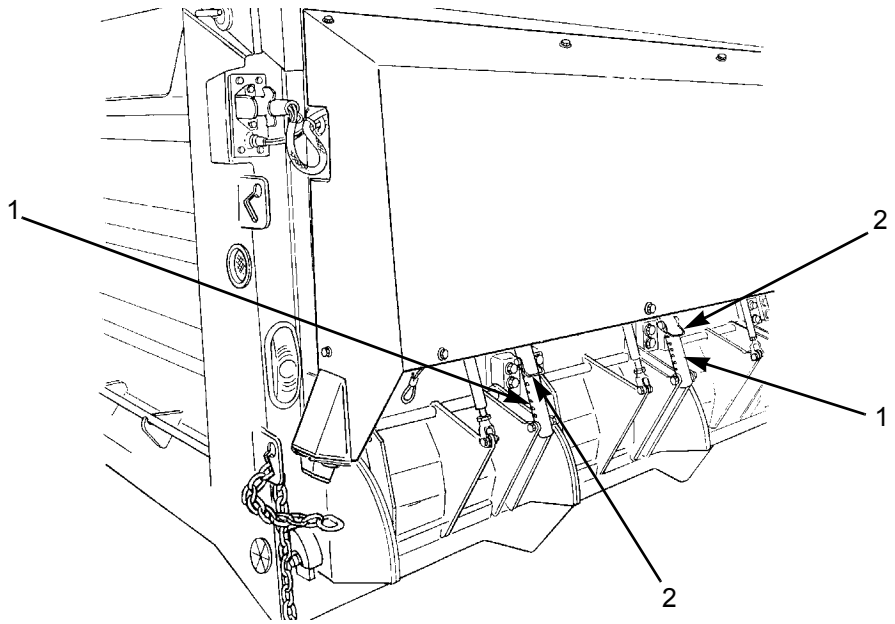
Outer right and outer left side adjustment tube locking pins must be installed with pin heads to outside. If incorrectly installed, end of pins will protrude and become bent.

NOTE

To achieve desired spreading pattern, each gate opening can be adjusted individually.

c. Install locking pin (2) in desired hole in adjustment tube (1). The lower the pin placement, the larger the gate opening.

d. When controlled spreading is completed, after gates have been closed and dump body is down, return locking pins (2) to top hole in adjustment tubes (1) to lock gates closed.



2-13. CONTROLLED SPREADING (M917A1 W/MCS AND M917A2 W/MCS).

WARNING

- **DO NOT connect or disconnect MCS remote control when dump body is being raised or lowered. Failure to follow this warning may cause personnel injury.**
- **When connected, MCS remote control overrides cab control unit. When remote control is disconnected, cab control activates. To avoid inadvertent opening or closing of gates, ALWAYS check gate positions and position of toggle switches on both cab and remote controls before plugging in or unplugging remote control. Toggle switches should be in CLOSED position. Failure to follow this warning may cause personnel injury.**
- **DO NOT spread or dump payload with dump truck facing a steep upgrade or a steep side slope. Dump truck may tip over backward or sideways. Failure to follow this warning may result in death or injury to personnel or damage to equipment.**
- **DO NOT stand or walk behind dump truck when it is dumping or in raised position. When using MCS remote control, always walk or stand to side of dump body. Failure to follow this warning may result in personnel injury.**
- **Keep hands and feet away from gate openings at all times. Failure to follow this warning could result in injury to personnel.**

NOTE

- **Operation requires two personnel, driver and assistant driver.**
- **Follow general dumping instructions in paragraph 2-10, with minor differences. Differences will be pointed out as they occur.**

a. Follow instructions in paragraph 2-10 to prepare to dump, except for the following steps:

(1) DO NOT unlock tailgate.

(2) Adjust MCS gate openings (paragraph 2-12).

b. Ensure that toggle switches on MCS control unit inside cab are in CLOSE position (paragraph 2-1).

c. Remove MCS remote control (1) from stowage. Ensure that toggle switches (5) are in CLOSED position. Plug remote control into receptacle (2) at right or left side of MCS tailgate (3).

d. Move toggle switches (5) to OPEN position. Depending on desired spreading pattern, all gates (4) or selected gates may be opened.

e. Raise dump body 2-3 ft (61-91 cm) and stop. Material should begin to spill out through gates (4).

f. Have driver pull forward with transmission in first gear (TM 9-2320-363-10 or TM 9-2320-302-10). Maintain a steady speed not to exceed 3 mi/h (5 km/h). Have assistant driver check thickness of dumped material to determine if gate openings need adjusting.

g. If adjustment is needed, stop dump truck, lower dump body, close gates (4), place transmission in N (Neutral), and set parking brake. Adjust MCS gate openings (paragraph 2-12).

h. Maintain a steady speed until all material has been spread. Raise dump body periodically to keep material flowing evenly through gates (4).

2-13. CONTROLLED SPREADING (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

WARNING

Care must be exercised when using the Material Control System (MCS). In the event material fails to flow through gates, open gate using open control and clear jam using BII shovel. DO NOT attempt to clear material using your hands or feet. Failure to follow this warning may cause injury to personnel.

i. If material becomes jammed in gates, open gate and clear jam with BII shovel.

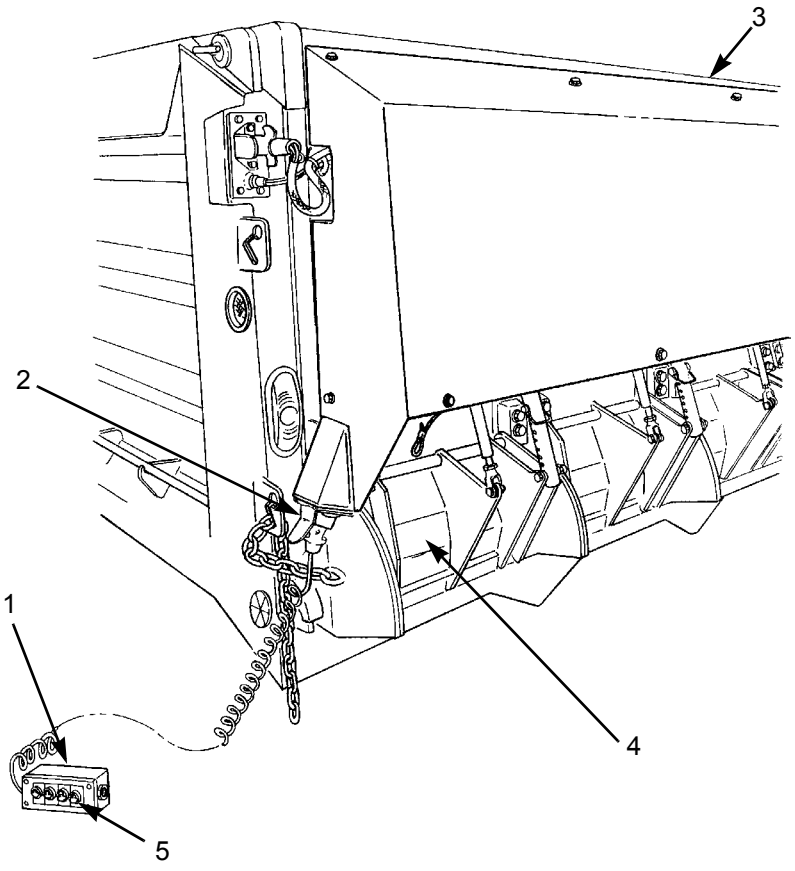
j. Close gates (4) by moving toggle switches (5) to CLOSED position.

k. Lower dump body (paragraph 2-10).

l. Unplug MCS remote control (1) from receptacle (2). Stow remote control in storage pouch and place in BII box.

m. Lock gates closed by returning adjustment tube locking pins to top hole in tubes (paragraph 2-12).

n. Perform after dumping steps, as applicable (paragraph 2-10).



2-14. OPERATING CARGO COVER.

WARNING

Observe the following safety regulations when operating cargo cover:

- **Never operate system under obstructions, such as trees and power lines.**
- **Ensure that all personnel are clear of rear of dump body and the immediate area of the cover.**
- **Ensure that chain cover is in place.**
- **Keep all clothing away from moving parts.**
- **DO NOT cover load with crank handle installed.**
- **DO NOT use cargo cover frame as a grabhandle.**

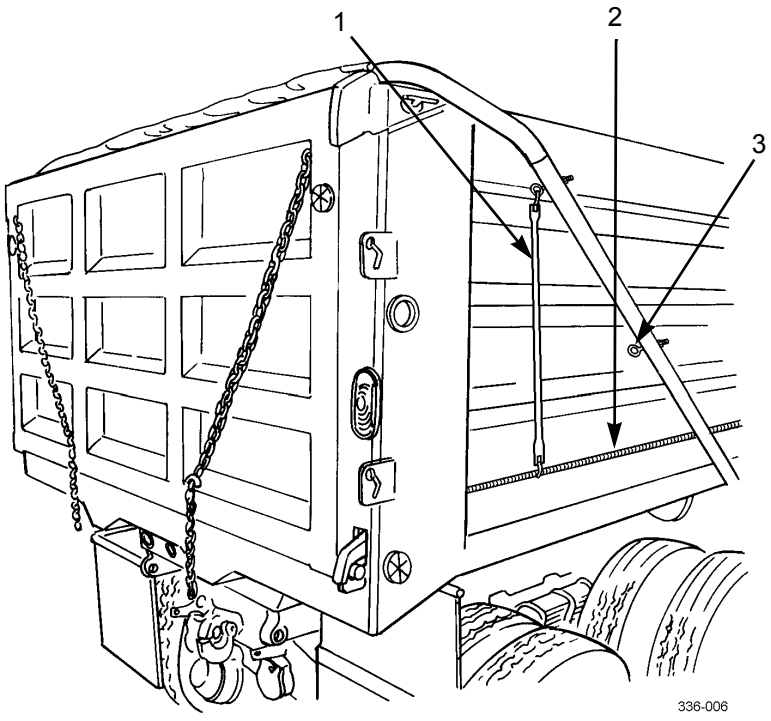
Failure to follow this warning may result in death or injury to personnel.

CAUTION

DO NOT attempt to uncover load without first removing any snow or water that has accumulated on cargo cover. Cargo cover may be damaged if this caution is not followed.

a. **Uncovering Load.**

(1) Unfasten rubber strap (1) from dump body weldment (2) and fasten to eyebolt (3).



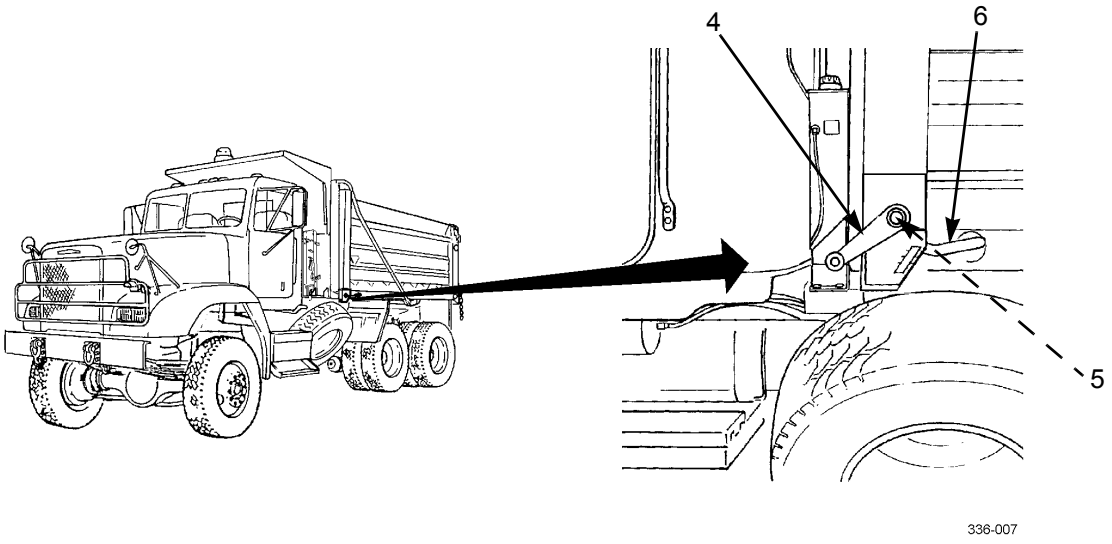
2-14. OPERATING CARGO COVER (Con't).

(2) Remove crank handle (4) from storage pouch in BII box.

(3) Install crank handle (4) on crank shaft (5). Turn handle clockwise to roll up cargo cover. Stop at any time and mechanism will hold cover in place.

(4) Stop cranking when cargo cover is completely rolled up.

(5) Remove crank handle (4) and stow.



b. **Covering Load.**

WARNING

DO NOT cover load with crank handle installed. Failure to follow this warning may result in injury to personnel.

(1) Ensure that crank handle (4) is NOT installed.

(2) Quickly move cargo cover control handle (6) to farthest down BRAKE position.

CAUTION

DO NOT let go of cargo cover control handle until cargo cover is fully over load. Handle provides braking action for cargo cover swing. If you let go of handle before cargo cover is over load, damage to crank assembly may result.

(3) Carefully lift cargo cover control handle (6) toward RELEASE position until cargo cover begins to move. Keep hand on handle so that cover moves slowly. If cargo cover moves too fast, move handle down slightly to apply brakes.

(4) When cargo cover is fully over load, release cargo cover control handle (6). Handle will return to top LOCK position.

(5) Unfasten rubber strap (1) from eyebolt (3) and fasten to dump body weldment (2).

2-15. OPERATING BODY PROPS.

WARNING

NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.

NOTE

- **Use body props to support a raised, EMPTY dump body for inspection or maintenance.**
- **Refer to paragraph 2-10 for operation of hydraulic control lever to raise and lower dump body.**

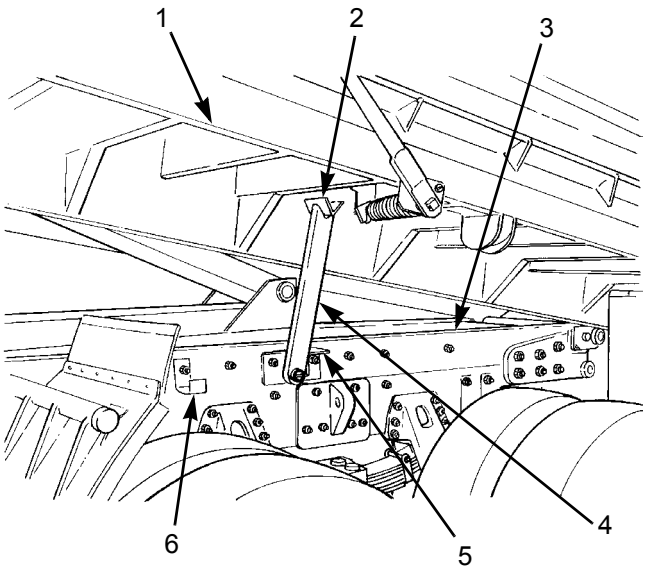
a. **Utilizing Body Props.**

(1) Start engine, place main light switch in SER DRIVE or STOP LIGHT position, and engage PTO (TM 9-2320-363-10 or TM 9-2320-302-10).

(2) Check that transport lock is unlocked (paragraph 2-1).

(3) Raise dump body (1).

(4) Raise body prop (4) on each side of vehicle chassis (3) until prop contacts stop (5).



CAUTION

Dump body must be lowered onto body props with PTO disengaged. Failure to follow this caution may damage body props, hydraulic cylinder or dump body.

(5) Turn off main light switch and disengage PTO (TM 9-2320-363-10 or TM 9-2320-302-10). Operate hydraulic control lever to lower dump body (1) until body props (4) firmly engage V-brackets (2).

b. **Stowing Body Props.**

(1) Start engine, place main light switch in SER DRIVE or STOP LIGHT position, and engage PTO (TM 9-2320-363-10 or TM 9-2320-302-10).

(2) Raise dump body (1) until body props (4) are clear of V-brackets (2).

(3) Swing body props (4) down to stowed position in stowage brackets (6).

(4) With engine at idle speed, lower dump body (1).

(5) Turn off main light switch, disengage PTO, and shut down engine (TM 9-2320-363-10 or TM 9-2320-302-10).

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

Paragraph Number	Paragraph Title	Page Number
2-16.	Operation in Windy Weather.	2-43
2-17.	Operation in Rainy or Snowy Weather	2-43
2-18.	Operation in Cold Weather	2-43

2-16. OPERATION IN WINDY WEATHER.

WARNING

DO NOT attempt to dump in high wind. High winds may disperse aggregate, causing injury to personnel or damage to equipment. High winds may also cause dump truck to roll over when bed is raised. Failure to follow this warning could result in death or injury to personnel or damage to equipment.

In moderate winds use cargo cover to keep material from blowing out of dump bed.

2-17. OPERATION IN RAINY OR SNOWY WEATHER.

a. In rainy or snowy weather use cargo cover to keep loads dry. Wet loads may stick, making dumping difficult.

CAUTION

DO NOT leave cargo cover extended over an empty dump body. DO NOT attempt to uncover load without first removing any snow or water that has accumulated on cargo cover. Cargo cover may be damaged if this caution is not followed.

b. Remove any accumulated snow or water from cargo cover before attempting to uncover load.

2-18. OPERATION IN COLD WEATHER.

Cold weather presents special problems because cold oil and hydraulic components should not be operated to capacity until the system has warmed up. This can be accomplished by performing the following steps:

a. Engage PTO (TM 9-2320-363-10 or TM 9-2320-302-10) while engine is warming up. Run engine at idle speed.

b. Clear all personnel from around the dump body.

c. Operate hydraulic control lever and check operation of dump body at low engine rpms to verify normal operation (paragraph 2-10). Keep in mind that oil has not been circulated through the hydraulic cylinder.

d. Lower dump body and place hydraulic control lever in N (Neutral) position (paragraph 2-10).

CHAPTER 3
OPERATOR MAINTENANCE

Section I. LUBRICATION INSTRUCTIONS

a. Lubrication instructions are in Appendix J of this manual.

b. All lubrication instructions are mandatory.

Section II. OPERATOR TROUBLESHOOTING PROCEDURES

Paragraph Number	Paragraph Title	Page Number
3-1.	General	3-3
3-2.	Explanation of Columns	3-3
3-3.	Troubleshooting Symptom Index	3-4
Table 3-1.	Operator Troubleshooting	3-5

3-1. GENERAL.

a. This section provides information for identifying and correcting malfunctions that you may find while operating the dump truck body.

b. The Troubleshooting Symptom Index (paragraph 3-3) lists common malfunctions which may occur and refers you to the proper page in Table 3-1 for a troubleshooting procedure.

c. If you are unaware of the location of an item mentioned in troubleshooting, refer to paragraphs 1-11, 2-1 or 2-2.

d. Before performing troubleshooting, read and follow all safety instructions found in the warning summary at the front of this manual.

e. This section cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed, or is not corrected by the listed corrective actions, notify your supervisor.

f. When troubleshooting a malfunction:

(1) Locate the symptom or symptoms in paragraph 3-3 that best describes the malfunction. If the appropriate symptom is not listed, notify your supervisor.

(2) Turn to the page in Table 3-1 where the troubleshooting procedures for the malfunction in question are described. Headings at the top of each page show how each troubleshooting procedure is organized: Malfunction, Test or Inspection (in step number order), and Corrective Action.

(3) Perform each step in the order listed until the malfunction is corrected and the item being inspected is operational. DO NOT perform any maintenance task unless the troubleshooting procedure tells you to do so.

3-2. EXPLANATION OF COLUMNS.

The columns in Table 3-1 are defined as follows:

(1) **MALFUNCTION.** A visual or operational indication that something is wrong with the equipment.

(2) **TEST OR INSPECTION.** A procedure to isolate the problem in a system or component.

(3) **CORRECTIVE ACTION.** A procedure to correct the problem.

3-3. TROUBLESHOOTING SYMPTOM INDEX.

	Troubleshooting Procedure Page
DUMP BODY TROUBLESHOOTING	
HYDRAULIC SYSTEM	
Dump Body Raises and Lowers Sluggishly	3-7
Dump Body Will Not Lower When Hydraulic Control Lever is Placed in DOWN Position	3-7
Dump Body Will Not Raise When Hydraulic Control Lever is Placed in UP Position	3-6
MCS (M917A1 w/MCS and M917A2 w/MCS)	
MCS Gate Will Not Operate	3-5
MCS Gate Will Not Operate With Driver's Controls	3-5
MCS Gate Will Not Operate With Remote Control	3-5
MCS Gate(s) Open or Close When Remote Control Is Connected	3-6
TAILGATE	
Tailgate Assembly Lock Will Not Release	3-6

Table 3-1. Operator Troubleshooting.

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
MCS (M917A1 W/MCS AND M917A2 W/MCS)
1. MCS GATE WILL NOT OPERATE.
Step 1. Check position of MCS gate(s) adjustment tube locking pins. Position locking pin(s) to desired operating position (paragraph 2-12).
Step 2. Check that all air tank drain valves are closed. Close all draincocks.
Step 3. Start engine and check for possible air leaks at air reservoirs, hoses, fittings, and MCS gate air cylinders. Notify Unit Maintenance of any leaks.
Step 4. MCS gate still fails to operate. Notify Unit Maintenance.
2. MCS GATE WILL NOT OPERATE WITH DRIVER'S CONTROLS.
Step 1. Check if MCS remote control is connected to left or right side of MCS tailgate. Disconnect MCS remote control from MCS gate.
Step 2. Check position of MCS gate(s) adjustment tube locking pins. Position locking pin(s) to desired operating position (paragraph 2-12).
Step 3. Check that all air reservoir draincocks are closed. Close all draincocks.
Step 4. Start engine and check for possible air leaks at air reservoirs, hoses, fittings, and MCS gate air cylinders. Notify Unit Maintenance of any leaks.
Step 5. MCS gate still fails to operate. Notify Unit Maintenance.
3. MCS GATE WILL NOT OPERATE WITH REMOTE CONTROL.
Step 1. Check if MCS remote control is properly connected to left or right side of MCS tailgate. Connect remote control to MCS tailgate.
Step 2. Check position of MCS gate(s) adjustment tube locking pins. Position locking pin(s) to desired operating position (paragraph 2-12).

Table 3-1. Operator Troubleshooting (Con't).

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

Step 3. Check that all air reservoir draincocks are closed.

Close all draincocks.

Step 4. Start engine and check for possible air leaks at air reservoirs, hoses, fittings, and MCS gate air cylinders.

Notify Unit Maintenance of any leaks.

Step 5. MCS gate still fails to operate.

Notify Unit Maintenance.

4. MCS GATE(S) OPEN OR CLOSE WHEN REMOTE CONTROL IS CONNECTED.

Step 1. Check position of remote control toggle switches.

Position toggle switches to CLOSED position.

Step 2. Control gate(s) still opens or closes when remote control is connected.

Notify Unit Maintenance.

TAILGATE

5. TAILGATE ASSEMBLY LOCK WILL NOT RELEASE.

Step 1. Check that all air reservoir draincocks are closed.

Close all draincocks.

Step 2. Start engine and check for possible air leaks at air reservoirs, hoses, fittings, and tailgate locking air cylinder.

Notify Unit Maintenance of any leaks.

HYDRAULIC SYSTEM

NOTE

To prevent overfilling hydraulic reservoir, DO NOT add hydraulic fluid when dump body is raised.

6. DUMP BODY WILL NOT RAISE WHEN HYDRAULIC CONTROL LEVER IS PLACED IN UP POSITION.

Step 1. Check position of main light switch.

Place main light switch in SER DRIVE or STOP LIGHT position (TM 9-2320-363-10 or TM 9-2320-302-10).

Step 2. Check if PTO is engaged.

Engage PTO (TM 9-2320-363-10 or TM 9-2320-302-10).

Table 3-1. Operator Troubleshooting (Con't).

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

Step 3. Check the hydraulic oil level in sight tube on reservoir.

Add hydraulic oil if necessary (Chapter 3, Section I).

Step 4. Check position of dump body transport lock.

Place transport lock in UNLOCKED position (paragraph 2-2).

Step 5. Dump body still will not raise.

Notify Unit Maintenance.

7. DUMP BODY RAISES AND LOWERS SLUGGISHLY.

Step 1. Check the hydraulic oil level in sight tube on reservoir.

Add hydraulic oil if necessary (Chapter 3, Section I).

Step 2. Check hydraulic oil filter service indicator gage.

Notify Unit Maintenance if gage is in the RED zone.

Step 3. Check hydraulic system for leaks.

Notify Unit Maintenance if a leak is present.

Step 4. Check for binding and inadequate lubrication at dump body, hydraulic cylinder, and stabilizer pivot points.

Lubricate pivot points (Chapter 3, Section I).

Step 5. Dump body still raises and lowers sluggishly.

Notify Unit Maintenance.

8. DUMP BODY WILL NOT LOWER WHEN HYDRAULIC CONTROL LEVER IS PLACED IN DOWN POSITION.

Step 1. Check for deployed body props.

Stow body props (paragraph 2-15).

Step 2. Check for obstructions.

Remove obstructions.

NOTE

DO NOT overfill hydraulic reservoir. ONLY add enough hydraulic oil to safely lower the dump body. Recheck hydraulic oil with dump body in lowered position. Add or drain oil as necessary (Chapter 3, Section I).

Step 3. Check the hydraulic oil level in sight tube on reservoir.

Add hydraulic oil if necessary (Chapter 3, Section I).

Step 4. Dump body still will not lower.

Notify Unit Maintenance.

Section III. OPERATOR MAINTENANCE

Paragraph Number	Paragraph Title	Page Number
3-4.	General	3-9
3-5.	Cleaning	3-9

3-4. GENERAL.

Lubrication and cleaning are the only maintenance procedures performed by the operator. Required lubrication is specified in Chapter 3, Section I.

3-5. CLEANING.

a. Road grime, mud, dust, salt, and material deposits inside dump body reduce payload and cause corrosion. Clean dump body whenever these materials begin to accumulate.

(1) With dump body completely lowered, use tailgate release control valve lever to release tailgate (paragraph 2-1).

WARNING

Wear eye protection when using high pressure stream of water to clean dump body. Failure to follow this warning may result in injury to personnel.

(2) Use a high pressure stream of water to clean the interior and outer sides.

(3) Use a stiff broom or brush and detergent (Item 9, Appendix F) to remove remaining dirt from interior and outer sides.

(4) Raise dump body and support it with body props (paragraph 2-15). Rinse inside of box. Clean underside of dump body with a high pressure stream of water.

(5) Use a stiff broom or brush and detergent (Item 9, Appendix F) to remove remaining dirt from underside of dump body.

(6) Leave dump body raised until it is thoroughly dry.

(7) When dry, lower dump body. Close and secure tailgate.

b. Cargo cover may be cleaned as required using a high pressure stream of water.

CHAPTER 4
UNIT MAINTENANCE

Section I. REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

Paragraph Number	Paragraph Title	Page Number
4-1.	Common Tools and Equipment	4-1
4-2.	Special Tools, TMDE, and Support Equipment	4-1
4-3.	Repair Parts	4-1

4-1. COMMON TOOLS AND EQUIPMENT.

For authorized common tools and equipment, refer to Appendix I, *Tool Identification List*, and to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

4-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

Special tools are listed and illustrated in the *Repair Parts and Special Tools List (RPSTL)*, Appendix C. TMDE and support equipment are listed in the *Maintenance Allocation Chart (MAC)*, Appendix B.

4-3. REPAIR PARTS.

Repair parts are listed and illustrated in Appendix C of this manual.

Section II. SERVICE UPON RECEIPT

Paragraph Number	Paragraph Title	Page Number
4-4.	General	4-2
4-5.	Inspection Instructions	4-2
4-6.	Servicing Instructions	4-2

4-4. GENERAL.

When a new, used, or reconditioned M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS is first received, determine whether it has been properly prepared for service and is in condition to perform its mission. Follow the inspection instructions in paragraph 4-5 and servicing instructions in paragraph 4-6.

4-5. INSPECTION INSTRUCTIONS.

a. Read and follow all instructions on DD Form 1397.

b. Remove all straps, plywood, tape, seals, wrapping, or any other shipping material.

WARNING

Dry cleaning solvent MIL-PRF-680 Type III is an environmentally compliant and low toxic material. However, it may be irritating to the eyes and skin. The use of protective gloves and goggles is suggested. Use in well-ventilated area. Keep away from open flame and other sources of ignition.

c. If any exterior parts are coated with rust preventive compound, remove with cleaning solvent (Item 5, Appendix F) and rags (Item 16, Appendix F).

d. Inspect the equipment for any damage incurred during shipment. Also check to see if the equipment has been modified.

e. Check the equipment against the packing slip to ensure that the shipment is complete. Report any discrepancies.

4-6. SERVICING INSTRUCTIONS.

a. Perform all Unit maintenance PMCS. Schedule the next PMCS on DD Form 314.

b. Perform all lubrication, regardless of interval, as described in Lubrication Instructions, Chapter 3, Section I.

c. Report any problems on DA Form 2404.

Section III. GENERAL MAINTENANCE INSTRUCTIONS

Paragraph Number	Paragraph Title	Page Number
4-7.	General	4-3
4-8.	Work Safety	4-4
4-9.	Cleaning Instructions	4-4
4-10.	Preservation of Parts	4-5
4-11.	Painting	4-5
4-12.	Inspection Instructions	4-6
4-13.	Disassembly and Assembly Instructions	4-6
4-14.	Lubrication Instructions	4-6
4-15.	Application of Adhesives	4-7
4-16.	Standard Tool Requirements	4-7
4-17.	Tagging Wires and Hoses	4-8
4-18.	Soldering	4-8
4-19.	Heat Shrinkable Tubing	4-8
4-20.	Electrical Ground Points	4-9
4-21.	Lines and Ports	4-10
4-22.	Antiseize Tape	4-10
4-23.	Tubes and Compression Fittings	4-11
4-24.	Fluid Disposal	4-11
4-25.	Service Replacement Parts and Kits	4-12
4-26.	Welding	4-12
4-27.	Electrical Repair	4-12

4-7. GENERAL.

a. These general maintenance instructions contain general shop practices and specific methods you must be familiar with to properly maintain the equipment. You should read and understand these practices and methods before performing any maintenance procedures.

b. Before beginning a task, find out how much repair, modification, or replacement is needed to fix the equipment. Sometimes the reason for equipment failure can be seen right away and complete teardown is not necessary. Disassemble equipment only as far as necessary to repair or replace damaged parts.

c. In some cases, a part may be damaged during removal. If the part appears to be good, and other parts behind it are not defective, leave it in place and continue with the procedure. Here are a few simple rules:

(1) Do not remove dowel pins or studs unless loose, bent, broken, or otherwise damaged.

(2) Do not remove bearings or bushings unless damaged. If you need to remove them to access parts behind, carefully pull out bearings and bushings.

(3) Replace all gaskets, lockwashers, self-locking nuts, seals, cotter pins, and preformed packings.

4-7. GENERAL (Con't).

d. The following "Initial Setup" information applies to all maintenance procedures:

(1) Resources are not listed unless they apply to the procedure.

(2) "Personnel Required" is listed only if more than one mechanic is required to complete the procedure.

e. All tags and forms attached to the equipment must be checked to learn the reason for removal of equipment from service. Modification Work Orders (MWOs) and Technical Bulletins (TBs) must also be checked for equipment changes and updates.

4-8. WORK SAFETY.

a. Before beginning a procedure, think about the safety risks and hazards to yourself and to others. Wear protective gear such as safety goggles or lenses, safety shoes, rubber apron, or gloves.

b. Before beginning a procedure, ensure that the following conditions have been observed, unless otherwise specified:

(1) Vehicle should be parked on level ground with parking brake set.

(2) Transmission must be in N (Neutral).

(3) Engine must be off and, unless otherwise indicated, cool.

(4) Components must be at operating temperature to be tested.

c. Immediately clean up spilled fluids to avoid slipping.

d. When lifting heavy parts, have someone help you. Ensure that lifting equipment or jack is working properly, that it meets weight requirement of part being lifted, and that it is securely fastened to part.

e. Always use power tools carefully.

4-9. CLEANING INSTRUCTIONS.

WARNING

Improper cleaning methods and use of unauthorized cleaning liquids or solvents can injure personnel and damage equipment. To prevent this, refer to TM 9-247 for further instructions.

a. **General.** Cleaning instructions will be the same for the majority of parts and components which make up the equipment. The following applies to all cleaning operations:

(1) Clean all parts before inspection, after repair, and before assembly.

(2) Keep hands free of grease which can collect dust, dirt and grit.

(3) After cleaning, all parts should be covered or wrapped to protect them from dust and dirt. Parts that are subject to rust should be lightly oiled after cleaning (paragraph 4-10).

4-9. CLEANING INSTRUCTIONS (Con't).

b. **Castings, Forgings, and Machined Metal Parts.**

WARNING

Dry cleaning solvent MIL-PRF-680 Type III is an environmentally compliant and low toxic material. However, it may be irritating to the eyes and skin. The use of protective gloves and goggles is suggested. Use in well-ventilated area. Keep away from open flame and other sources of ignition.

(1) Clean inner and outer surfaces with cleaning solvent (Item 5, Appendix F) and dry with clean rags (Item 16, Appendix F).

(2) Remove grease and accumulated deposits with a scrub brush (Item 3, Appendix F).

WARNING

Compressed air used for cleaning or drying purposes, or for clearing restrictions, should never exceed 30 psi (207 kPa). Wear protective clothing (goggles/shield, gloves, etc.) and use caution to avoid injury to personnel.

(3) Clear all threaded holes with compressed air to remove dirt and cleaning fluids.

CAUTION

DO NOT wash oil seals, electrical cables, and flexible hoses with dry cleaning solvent or mineral spirits. Serious damage or destruction of material will result.

c. **Oil Seals, Electrical Cables, and Flexible Hoses.** Wash oil seals, electrical cables, and flexible hoses with a solution of detergent (Item 9, Appendix F) and water, and wipe dry with a clean rag (Item 16, Appendix F).

d. **General Cleaning Covered by Other Manuals.** Refer to TM 9-247, *Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Materiel and Related Materials Including Chemicals*.

4-10. PRESERVATION OF PARTS.

Unpainted metal parts that will not be installed immediately after cleaning should be covered with a thin coat of lubricating oil (Item 15, Appendix F).

4-11. PAINTING.

On painted areas where paint has been removed, paint in accordance with procedures outlined in TM 43-0139 and TB 43-0209.

4-12. INSPECTION INSTRUCTIONS.

NOTE

All damaged areas should be marked for repair or replacement.

a. All components and parts must be carefully checked to determine if they are serviceable for use, can be repaired, or must be scrapped.

b. Inspect drilled and tapped (threaded) holes for the following:

(1) Wear, distortion, cracks, and any other damage in or around holes.

(2) Threaded areas for wear distortion (stretching) and evidence of cross-threading.

c. Inspect metal lines, flexible lines or hoses, and metal fittings and connectors for the following:

(1) Metal lines for sharp kinks, cracks, bad bends, and dents.

(2) Flexible lines or hoses for fraying, evidence of leakage, and loose metal fittings or connectors.

(3) Metal fittings and connectors for thread damage and worn or rounded hex heads.

d. Inspect castings, forging, and machined metal parts for the following:

(1) Machined surfaces for nicks, burrs, scoring, grooves, raised metal wear, and other damage.

(2) Inner and outer surfaces for breaks and cracks.

e. Inspect bearings in accordance with TM 9-214.

4-13. DISASSEMBLY AND ASSEMBLY INSTRUCTIONS.

Follow these general practices when performing disassembly and assembly procedures:

(1) Keep major components together whenever possible and practical.

(2) Tag hoses, electrical wires, cables, and harnesses to identify them and aid during installation.

(3) Keep related parts together for identification purposes.

(4) Temporarily install attaching hardware such as screws, bolts, washers, and nuts to prevent loss.

(5) Only disassemble to the point of the problem.

(6) Ensure that parts are clean and lubricated before assembly.

4-14. LUBRICATION INSTRUCTIONS.

Refer to Chapter 3, Section I for detailed, illustrated instructions on proper lubrication. Some general practices to remember:

(1) Use the correct lubricant.

(2) Keep lubricants clean.

(3) Clean all fittings prior to lubrication.

(4) Lubricate clean, disassembled, and new parts to prevent rust (paragraph 4-10).

4-15. APPLICATION OF ADHESIVES.

a. **General.** Adhesives are recommended in some tasks to ensure and strengthen seals. The following information describes their correct use and application.

b. **Silicone Sealant.** Silicone sealant (Item 17, Appendix F) is used to seal parts against moisture. Use the following instructions when applying:

(1) Anytime a seal is broken, the part must be thoroughly cleaned to remove any remaining sealing compound and dirt.

(2) Thoroughly clean surface before applying sealant.

(3) When applying sealant, ensure that the area is completely covered. Press sealant into and around parts as necessary.

(4) Silicone sealant will set in 15-30 minutes depending on temperature and humidity.

c. **Loctite Adhesive.** Loctite adhesive (Item 1, Appendix F) provides a seal against leakage and a resistance to loosening when used in the assembly of threaded, slip-fitted, or press-fitted parts. Always use grade of Loctite adhesive specified and never use when other retaining means are provided, such as lockwires, lockwashers, lockplates, and fasteners. DO NOT use Loctite adhesive on brass fittings, plugs, or items that need frequent servicing, or when operating temperature exceeds 300°F (149°C). Apply Loctite adhesive as follows:

(1) Before application, clean threads to remove oil, grease, and metal chips.

(2) Apply Loctite adhesive to second and third threads. DO NOT apply to first thread to ensure system cleanliness.

(3) Loctite adhesive will dry in 6-24 hours at room temperature.

(4) Adjustments for elbows, gages, and valves can be made up to 24 hours after application without affecting the seal.

4-16. STANDARD TOOL REQUIREMENTS.

a. The following are general practices regarding the use of tools:

(1) Always use the proper tool kit and tools for the procedure being performed.

(2) Ensure that tools are clean and lubricated to reduce wear and to prevent rust.

(3) Keep track of tools. Do not be careless with them.

(4) Return tools to toolbox when finished with repair or maintenance.

(5) Return toolboxes and tools to tool storage when not in use.

(6) Inventory tools before and after each use.

b. Some maintenance tasks may require special or fabricated tools. The “Initial Setup” of the procedure will specify any special or fabricated tools needed to perform that procedure. Use these special tools only for the maintenance procedures for which they are designed or called out. If you are unfamiliar with a required tool, see your supervisor.

4-17. TAGGING WIRES AND HOSES.

a. Use marker tags (Item 20, Appendix F) to identify all electrical wires, lines, and any other parts which may be hard to identify or replace later. Fasten tags to parts during removal by wrapping wire fasteners around or through parts and twisting ends together. Position tags to be out of the way during cleaning, inspection, and repair. Mark tags with a pencil, pen, or marker.

b. Whenever possible, identify electrical wires with the number of the terminal or wire to which it connects. If no markings can be found, tag both wires or wire and terminal, and use the same identifying mark for both. If you cannot tag a wire because it must fit through a small hole or you cannot reach it, write down the description of the wire and the point to which it connects or draw a simple diagram on paper. Be sure to write down enough information so you will be able to properly connect the wires during assembly. If you need to identify a loose wire, look for identifying numbers near the end of the wire, stamped on a permanent metal tag. Compare this number to wire number on the appropriate electrical schematic.

c. Identify lines when you are taking off more than one line at the same time. Mark tags with points to which lines and hoses must be connected. If it is not obvious which end of a line goes where, tag each end of the line.

d. Identify and tag other parts as required by name and installed location.

4-18. SOLDERING.

CAUTION

Use low wattage soldering gun when soldering electrical wires, connectors, terminal lugs, and receptacles. High wattage soldering guns may damage parts by overheating.

a. Solder connection must be bright and clean before soldering. Remove dirt and grease with a wire brush (Item 4, Appendix F) or a pocket knife (Item 8, Appendix I). Solder used must be of lead alloy (Item 18, Appendix F) with soldering flux (Item 10, Appendix F). All wires, parts, and soldering gun (Item 7, Appendix I) must be tinned for good connection and maximum transfer of heat.

b. To prevent overheating damage to electrical parts when soldering and unsoldering connections, hold bare wire, lead, or terminal lug close to soldering point with long roundnose pliers (Item 8, Appendix I). Pliers act as heat sink and absorb excess heat.

4-19. HEAT SHRINKABLE TUBING.

Use the heat shrinkable tubing (Item 24, Appendix F) to insulate soldered and crimped electrical connections as follows:

(1) Cut desired length of new heat shrinkable tubing twice the length of the connection to be covered.

(2) Slide the heat shrinkable tubing onto the wire and out of the way before making electrical connection.

(3) After making electrical connection, slide heat shrinkable tubing into place over electrical connection.

4-19. HEAT SHRINKABLE TUBING (Con't).

WARNING

DO NOT touch heat shrinkable tubing for at least 30 seconds after heating. Heat shrinkable tubing is hot and will burn you.

(4) Hold hot air blow gun (Item 2, Appendix I) 4-5 in. (10.2-12.7 cm) away from heat shrinkable tubing and apply heat for approximately 30 seconds. Stop applying heat as soon as heat shrinkable tubing forms to the shape of the electrical connection.

4-20. ELECTRICAL GROUND POINTS.

Many electrical problems are the result of poor ground connection. You can ensure that ground connections are good by performing the following steps:

WARNING

Although battery ground cable must be connected in order to test electrical circuit voltage, disconnect battery ground cable before performing resistance tests or replacing parts. This will prevent shock to personnel, and damage to parts and equipment.

(1) Remove hardware connecting ground cable terminal lug to ground point.

WARNING

Dry cleaning solvent MIL-PRF-680 Type III is an environmentally compliant and low toxic material. However, it may be irritating to the eyes and skin. The use of protective gloves and goggles is suggested. Use in well-ventilated area. Keep away from open flame and other sources of ignition.

(2) Clean mounting hardware, ground cable terminal lugs, and ground point with cleaning solvent (Item 5, Appendix F) and scrub brush (Item 3, Appendix F).

(3) Remove any rust with wire brush (Item 4, Appendix F).

(4) Look for cracks, loose terminal lugs, and stripped threads. Replace any defective parts.

(5) Install hardware connecting ground cable terminal lug to ground point. Ensure that all hardware is tight.

4-21. LINES AND PORTS.

To keep dirt from contaminating fluid systems when removing and installing lines, perform the following steps:

(1) Clean fittings and surrounding area before disconnecting lines.

(2) Cover, cap, plug, or tape lines and ports after disconnecting lines. Use cap and plug set (Item 1, Appendix I) on hydraulic lines. When these are not available, use hand-carved wooden plugs, clean rags (Item 16, Appendix F), duct tape (Item 22, Appendix F), or other similar materials to prevent dirt from entering system.

(3) Ensure that new and used parts are clean before installing.

(4) Wait to remove cover, cap, plug, or tape from lines and ports until just before installing lines.

4-22. ANTISEIZE TAPE.

CAUTION

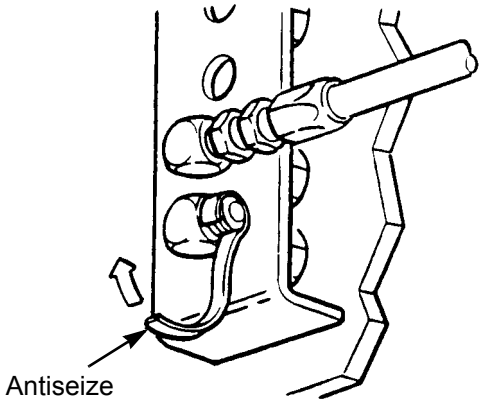
- **DO NOT use antiseize tape on air lines. Damage to air valves may result if antiseize tape is used.**
- **Apply antiseize tape only to pipe threads of male fittings of hydraulic system.**

When connecting hydraulic lines and fittings without compression sleeves or packings, antiseize tape (Item 21, Appendix F) may be used to keep connections from leaking. Use as follows:

(1) Ensure that threads are clean and dry.

(2) Start antiseize tape one or two threads from small or leading edge of fitting, joining tape together with an overlap of about 1/8 in. (3.18 mm) for fittings with fine threads. For fittings with coarse threads, tape should be wrapped around threads two or three times.

(3) Tightly wrap antiseize tape in same direction as you would tighten a nut. Tape must be pressed into threads without cutting or ripping.



CAUTION

DO NOT exceed specified torque or use power tools to tighten fittings taped with antiseize tape. Over tightening could damage fitting threads and cause connection to leak.

(4) Using hand tools, tighten fittings to specified torque.

4-23. TUBES AND COMPRESSION FITTINGS.

a. Tubes with inverted nuts and compression fittings are designed for one time assembly. Once assembled, they must be replaced as a unit if any parts are found defective. Used parts may not seal properly when used with new ones.

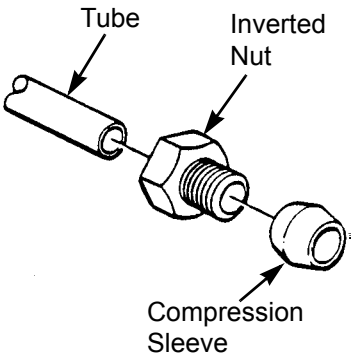
b. Used tube assemblies in good condition can be installed to their original location without leaking.

c. Assemble new tubes, compression sleeves, and inverted nuts as follows:

(1) Slide inverted nut onto end of tube.

(2) Slide compression sleeve onto end of tube.

(3) Repeat previous two steps for other end of tube as required.

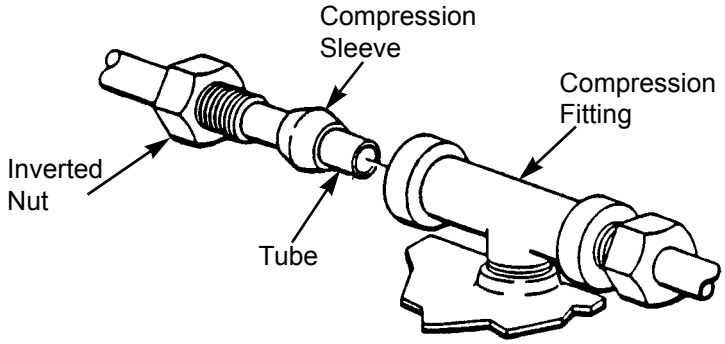


d. Install new tube assemblies as follows:

(1) Insert end of tube as far as it will go into compression fitting to which tube is being installed.

(2) Twist inverted nut into compression fitting and tighten inverted nut against compression sleeve with open-end wrench (Item 8, Appendix I). Compression sleeve will clamp down around tube and conform to internal surface of compression fitting and inverted nut.

(3) Repeat previous two steps for other end of tube as required.



4-24. FLUID DISPOSAL.

WARNING

When servicing this vehicle, performing maintenance, or disposing of materials such as engine coolant, transmission fluid, lubricants, battery acids or batteries and CARC paint, consult your Unit/Local Hazardous Waste Disposal Center or safety office for local regulatory guidance. If further information is needed, please contact the Army Environmental Hotline at 1-800-872-3845.

4-25. SERVICE REPLACEMENT PARTS AND KITS.

Many service replacement parts are available in standard sizes as well as various undersized and/or oversized sizes. Service kits for reconditioning certain parts and service sets, which include all parts necessary to complete a procedure, are also available.

4-26. WELDING.

WARNING

Provide adequate ventilation and personal protective equipment before starting any welding operation. Contact your unit/local Industrial Hygienist or Safety Officer for assistance. Failure to follow this warning may result in injury to personnel.

CAUTION

Before welding, the following components must be disconnected: DDEC ECU, ABS ECU, CTIS ECU, Datalogger, and batteries (TM 9-2320-363-20 or TM 9-2320-302-20). If welding on a trailer, it must be uncoupled from dump truck. Failure to follow this caution may damage electronic components.

Refer to TM 9-237, *Operator's Manual for Welding Theory and Application*, for instructions on welding components.

4-27. ELECTRICAL REPAIR.

a. **General.** Specific electrical system maintenance tasks are covered in Chapter 4, Section VI of this manual.

b. **Wiring Harness and Cable Repair.** Wiring harness and cable repair for the dump truck body is the same as for the dump truck chassis. Refer to instructions in Chapter 3 of TM 9-2320-363-20 or TM 9-2320-302-20.

Section IV. UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

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4-28. GENERAL.

NOTE

Refer to TM 9-2320-363-20 or TM 9-2320-302-20 for Unit PMCS for the dump truck chassis.

To ensure that the dump truck body is ready for operation at all times, it must be lubricated and inspected on a regular basis so that defects may be found before they result in serious damage, equipment failure, or injury to personnel. Table 4-1 lists the types, amounts, and temperature ranges of the lubricants required for specified intervals. Table 4-2 contains systematic instructions on lubrications, inspections, adjustments, and corrections to be performed by Unit Maintenance to keep your equipment in good operating condition and ready for its primary mission.

4-29. EXPLANATION OF TABLE ENTRIES.

a. **Item Number (Item No.) Column.** Numbers in this column are for reference. When completing DA Form 2404 (*Equipment Inspection and Maintenance Worksheet*), include the item number for the check/service indicating a fault. Item numbers also appear in the order you must perform checks and services for the interval listed.

b. **Interval Column.** This column tells you when you must perform the procedure in the procedure column.

(1) *Semiannual* procedures must be done once every six months.

(2) *Annual* procedures must be done once each year.

c. **Location, Item to Check/Service Column.** This column identifies the location and the item to be checked or serviced.

4-29. EXPLANATION OF TABLE ENTRIES (Con't).

NOTE

The WARNINGs and CAUTIONs appearing in your PMCS table should always be observed. WARNINGs and CAUTIONs appear before applicable procedures. These WARNINGs and CAUTIONs must be observed to prevent serious injury to yourself and others or to prevent your equipment from being damaged.

d. **Procedure Column.** This column gives the procedure you must perform to check or service the item listed in the Item to Check/Service column to know if the equipment is ready or available for its intended mission or for operation. You must perform the procedure at the time stated in the interval column.

e. **Not Fully Mission Capable If: Column.** Information in this column tells you what fault will keep your equipment from being capable of performing its primary mission. If you make check and service procedures that show faults listed in this column, the equipment is not mission-capable. Follow standard operating procedures for maintaining the equipment or reporting equipment failure.

4-30. GENERAL LUBRICATION PROCEDURES.

NOTE

Refer to Appendix J, Lubrication Instructions, for Lubrication Chart, key, localized views, and procedural notes.

a. Recommended intervals are based on normal conditions of operation, temperature, and humidity. When operating under extreme conditions, lubricants should always be changed more frequently. When in doubt, notify your supervisor.

b. Keep all lubricants in a closed container and store in a clean, dry place away from extreme heat or cold. Keep container covers clean and do not allow dust, dirt, or other foreign material to mix with lubricants. Keep all lubrication equipment clean and ready for use.

c. Maintain a good record of all lubrication performed and report any problems noted during lubrication. Refer to DA Pam 738-750 for maintenance forms and procedures to record and report any findings.

d. Keep all external parts of equipment not requiring lubrication free of lubricants. Before lubrication, wipe lubrication fittings with a clean rag (Item 16, Appendix F). After lubrication, wipe off excess oil or grease to prevent accumulation of foreign matter.

e. Refer to FM 9-207 for lubrication instructions in cold weather.

f. Refer to AR 70-12 for use of standardized lubricants.

g. Hydraulic oil filter element will be changed when it is known to be contaminated or clogged.

h. Hydraulic oil must be sampled initially at 90 days of operation, as prescribed by DA Pam 738-750.

4-31. GENERAL PMCS PROCEDURES.

a. Always perform PMCS in the same order so it gets to be a habit. Once you've had some practice, you'll spot anything wrong in a hurry. If any deficiency is discovered, perform the appropriate troubleshooting task in Section V of this chapter. If any component or system is not serviceable, or if the given service does not correct the deficiency, notify your supervisor.

b. Before performing preventive maintenance, read all the checks required for the applicable interval and prepare all tools needed to make all checks. Have several clean rags (Item 16, Appendix F) handy. Perform ALL inspections at the applicable interval.

WARNING

Dry cleaning solvent MIL-PRF-680 Type III is an environmentally compliant and low toxic material. However, it may be irritating to the eyes and skin. The use of protective gloves and goggles is suggested. Use in well-ventilated area. Keep away from open flame and other sources of ignition.

(1) **Keep It Clean.** Dirt, grease, oil, and debris get in the way and may cover up a serious problem. Clean as you work and as needed. Use dry cleaning solvent (Item 5, Appendix F) on all metal surfaces. Use dishwashing compound (Item 6, Appendix F) and water when you clean rubber, plastic, and painted surfaces.

(2) **Deterioration, Rust, and Corrosion.**

(a) Be alert for deterioration of plastic and rubber materials. Report it to your supervisor.

(b) Check metal parts for rust and corrosion. If any bare metal or corrosion exists, clean and apply a light coat of lubricating oil (Item 15, Appendix F). Report it to your supervisor.

(3) **Bolts, Nuts, and Screws.** Check bolts, nuts, and screws for obvious looseness, missing, bent, or broken condition. You can't try them all with a tool, but look for chipped paint, bare metal, or rust around bolt heads. If you find one you think is loose, tighten it.

(4) **Welds.** Look for loose or chipped paint, rust, or gaps where parts are welded together. If you find a bad weld, report it to your supervisor.

(5) **Electric Wires and Connectors.** Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connectors and ensure that the wires are in good condition.

(6) **Hydraulic Hoses and Lines.** Look for wear, damage, and signs of leaks. Ensure that clamps and fittings are tight. Wet spots indicate leaks, but a stain around a fitting or connector can also mean a leak. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, correct it if authorized by the Maintenance Allocation Chart (Appendix B). If not authorized, notify your supervisor.

(7) **Fluid Leakage.** It is necessary for you to know how fluid leakage affects the status of your dump truck. The following are definitions of the types/classes of leakage you need to know to be able to determine the status of your equipment. Learn and be familiar with them, and remember-- when in doubt, notify your supervisor.

4-31. GENERAL PMCS PROCEDURES (Con't).

Leakage Definitions for Unit PMCS

Class I	Leakage indicated by wetness or discoloration, but not great enough to form drops.
Class II	Leakage great enough to form drops, but not enough to cause drops to drip from the item being checked/inspected.
Class III	Leakage great enough to form drops that fall from the item being checked/ inspected.

CAUTION

Operation is allowable with Class I and Class II leakage. WHEN IN DOUBT, NOTIFY YOUR SUPERVISOR. When operating with Class I or Class II leaks, check fluid levels more frequently. Class III leaks must be reported immediately to your supervisor. Failure to do this will result in damage to vehicle and/or components.

4-32. PMCS INITIAL SETUP.

a. **General.**

(1) This paragraph lists tools, materials, and personnel required for PMCS and lubrication.

(2) Mandatory replacement parts for PMCS and lubrication are listed in paragraph 4-34.

b. **Tools.**

(1) Drain pan (Item 4, Appendix I).

(2) General mechanic's tool kit (Item 8, Appendix I).

c. **Materials.**

(1) Corrosion preventive (Item 8, Appendix F)

(2) Dishwashing compound (Item 6, Appendix F)

(3) Detergent (Item 9, Appendix F)

(4) Lubricating oil, OEA (Item 13, Appendix F)

(5) Lubricating oil, OE/HDO 10 (Item 14, Appendix F)

(6) Lubricating oil, OE/HDO 30 (Item 15, Appendix F)

(7) Rags (Item 16, Appendix F)

(8) Cleaning solvent (Item 5, Appendix F)

d. **Personnel.**

(1) Driver/Operator

(2) Unit Maintenance Mechanic

4-33. LUBRICATION DATA.

Table 4-1. Lubrication Data.

SEMIANNUAL LUBRICANTS		
Lubricant/Component	**Refill Capacity**	**Expected Temperatures***
WD-40 Corrosion Preventive • Cargo Cover Chain • Cargo Cover Roller Shaft Bearings	As Required	ALL TEMPERATURES
* For arctic operation, refer to FM 9-207.		

ANNUAL LUBRICANTS		
Lubricant/Component	**Refill Capacity**	**Expected Temperatures***
OE/HDO (MIL-L-2104) Oil, Lubricating, ICE, Tactical OEA (MIL-L-46167) Oil, Lubricating, ICE, Arctic • Hydraulic Reservoir	12.75 gal. (48.2 l)	OE/HDO-10: +6°F to +122°F (-14°C to +50°C) -4°F to +50°F (-20°C to +10°C) OEA: -67°F to +32°F (-55°C to 0°C)
WD-40 Corrosion Preventive • Cargo Cover Chain • Cargo Cover Roller Shaft Bearings	As Required	ALL TEMPERATURES
* For arctic operation, refer to FM 9-207.		

4-34. MANDATORY REPLACEMENT PARTS.

NOTE

Refer to Appendix C for more information on mandatory replacement parts.

ANNUAL

Nomenclature	Qty	(CAGEC) P/N	NSN
Filter element, hydraulic oil	1	(5X050) 403366	4330-01-446-3337
Preformed packing, filter housing cover	1	(60827) 251-70-BN	5330-01-447-4034

Table 4-2. Unit Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Truck Body.

Item No.	Interval	Location: Item To Check/ Service	Procedure	Not Fully Mission Capable If:
			WARNING **Unless otherwise specified, perform all lubrication and preventive maintenance checks with dump truck on level ground, transmission in N (Neutral), parking brake set, and engine off. Failure to follow this warning may result in personnel injury.** **NOTE** • **Perform all Operator PMCS, (Chapter 2, Section II) as appropriate, while performing Item No. 1-4 checks. Drive at least 5 mi (8 km) to give enough time to detect malfunctions.** • **Dump truck's chassis air system activates both models' tailgate locking mechanism and interfaces with MCS air system on the M917A1 w/MCS and M917A2 w/ MCS to operate the MCS tailgate.**	
1	**Semi-annual**	**Tailgate Operation**	a. Start engine and fully pressurize vehicle air systems (TM 9-2320-363-10 or TM 9-2320-302-10). Listen for air leaks. b. Operate tailgate release control valve lever in cab (paragraph 2-1). Check that tailgate unlocks and locks.	a. Air leaks are present.

Table 4-2. Unit Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Truck Body (Con't).

Item No.	Interval	Location Item To Check/ Service	Procedure	Not Fully Mission Capable If:
2	**Semi-annual**	**MCS Tailgate Operation (M917A1 w/MCS and M917A2 w/MCS)**	Check operation of MCS gates (paragraph 2-12). Listen for air leaks.	Air leaks are present.
3	**Semi-annual**	**Hydraulic System Operation**	Raise and lower dump body and check for smooth operation (paragraph 2-10). Be alert for hydraulic fluid leaks. **WARNING** **Observe the following safety regulations when operating cargo cover:** **a. Never operate system under obstructions, such as trees and power lines.** **b. Ensure that all personnel are clear of rear of dump body and the immediate area of the cover.** **c. Ensure that chain cover is in place.** **d. Keep all clothing away from moving parts.** **e. DO NOT cover load with crank handle installed.** **Failure to follow this warning may result in death or injury to personnel.**	Class III hydraulic fluid leaks are present.

Table 4-2. Unit Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Truck Body (Con't).

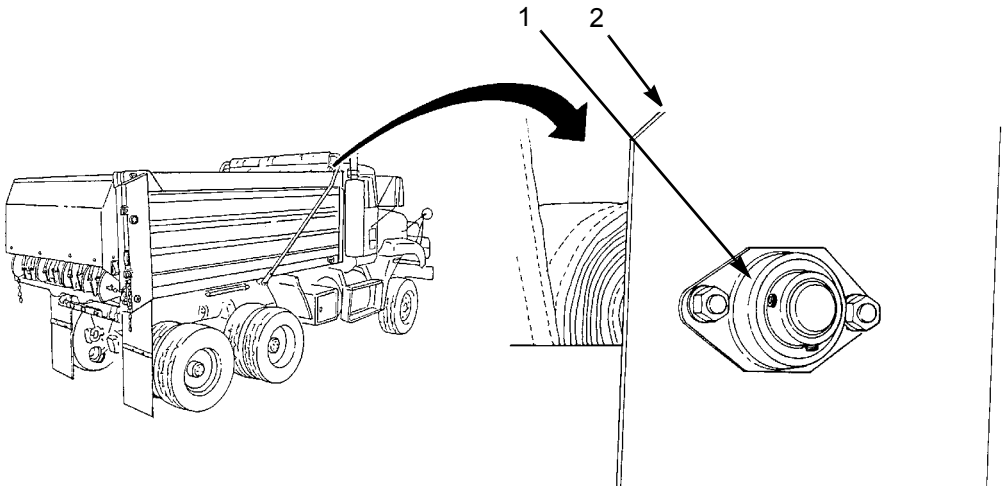
Item No.	Interval	Location: Item To Check/ Service	Procedure	Not Fully Mission Capable If:
4	Semi-annual	Cargo Cover	a. Operate cargo cover and check for smooth operation (paragraph 2-14). b. Remove chain cover (paragraph 4-66). Inspect chain for dirt, corrosion or other damage. Check for proper chain adjustment. Replace chain if damaged (paragraph 4-66). c. Lubricate chain sparingly with corrosion preventive (Item 8, Appendix F). d. Lubricate roller shaft bearings (1) at left and right side roll-up bar mounting brackets (2). Apply corrosion preventive (Item 8, Appendix F) sparingly. e. Install chain cover (paragraph 4-66).	
				
5	Semi-annual	Dump Body	a. With dump body down, inspect dump body and tailgate for cracks, breaks, bends, weld breaks, wear, and missing or loose bolts. b. Inspect for corrosion in accordance with TM 43-0213.	

Table 4-2. Unit Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Truck Body (Con't).

Item No.	Interval	Location: Item To Check/ Service	Procedure	Not Fully Mission Capable If:
6	Semi-annual	Body Props	Inspect body props for binding or damage. Replace if damaged (paragraph 4-61). **WARNING** **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.**	
7	Semi-annual	Hydraulic Reservoir, Fill Cap Vent	a. Raise dump body and support with body props (paragraph 2-15). **WARNING** **To prevent burns, use caution when removing fill cap of hydraulic reservoir when hydraulic fluid is hot. Avoid contact with hot hydraulic oil. Failure to follow this warning may result in injury to personnel.** b. Remove fill cap from reservoir. Clean fill cap vent in accordance with Chapter 4, Section III, *General Maintenance Instructions.* Install fill cap. **WARNING** **DO NOT disconnect hydraulic lines while engine is running. Engine must be shut down and dump body fully lowered or supported on body props before lines are disconnected. Escaping hydraulic fluid under pressure can penetrate the skin, causing serious injury to personnel.** c. Inspect all hydraulic lines, fittings, and components for signs of leaks. Tighten any connections that are loose. Ensure that hydraulic lines are supported. Replace any damaged component.	

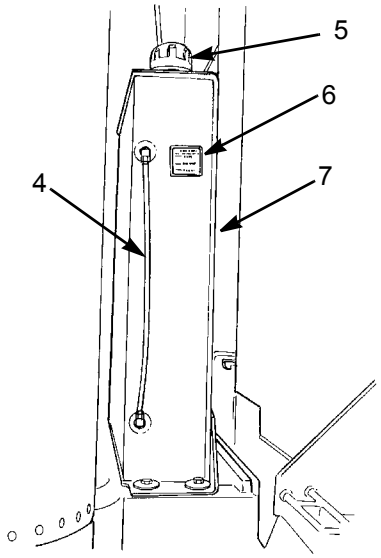
Table 4-2. Unit Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Truck Body (Con't).

Item No.	Interval	Location: Item To Check/ Service	Procedure	Not Fully Mission Capable If:
			WARNING **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.**	
8	**Semi-annual**	**Stabilizer**	Inspect stabilizer for loose mounting or damage. If damaged, notify Direct Support Maintenance.	
			WARNING **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.**	
9	**Semi-annual**	**Tailgate Release Air Cylinder Lines**	With vehicle air system pressurized, check air lines, fittings, and tailgate release air cylinder under dump body for loose mounting, leaks or damage. A solution of detergent (Item 9, Appendix F) and water applied to lines and fittings will help locate leaks.	
			WARNING **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.**	
10	**Semi-annual**	**Tailgate Locking Linkage**	Inspect tailgate locking linkage for breaks, bends, cracks, corrosion, and loose mounting.	

Table 4-2. Unit Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Truck Body (Con't).

Item No.	Interval	Location Item To Check/ Service	Procedure	Not Fully Mission Capable If:
			WARNING **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.**	
11	**Semi-annual**	**Frame and Crossmembers**	a. Inspect dump body frame and crossmembers for cracks, breaks, bends, weld breaks, wear, and missing or loose bolts and rivets. b. Inspect for corrosion in accordance with TM 43-0213. c. Remove body props and lower dump body (paragraph 2-15).	
12	**Annual**	**Decals and Stencils**	Check all decals and stencils to ensure legibility.	
			WARNING **To prevent burns, use caution when removing fill cap of hydraulic reservoir when hydraulic fluid is hot. Avoid contact with hot hydraulic oil. Use extreme care when draining hydraulic oil. Failure to follow this warning may result in injury to personnel.**	
13	**10,000 Miles or Annual**	**Hydraulic Reservoir**	a. With dump body down and engine off, remove magnetic drain plug from underside of reservoir (7). Drain hydraulic oil into a suitable container.	

Table 4-2. Unit Preventive Maintenance Checks and Services (PMCS) for M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Truck Body (Con't).

Item No.	Interval	Location: Item To Check/ Service	Procedure	Not Fully Mission Capable If:
13 (Con't)	**10,000 Miles or Annual**	**Hydraulic Reservoir**	b. Remove fill cap (5). Remove strainer from reservoir (7) (paragraph 4-75). Clean strainer and reinstall. c. Replace hydraulic oil filter element (paragraph 4-76). d. Clean drain plug and reinstall. **NOTE** **Hydraulic reservoir capacity is 12.75 gal. (48.2 l). DO NOT overfill.** e. Fill reservoir (7) with lubricating oil (Item 13 or 14, Appendix F) until level of fluid in sight tube (4) is at FULL mark as indicated on oil level decal (6). Install fill cap (5). 	

Section V. UNIT TROUBLESHOOTING PROCEDURES

Paragraph Number	Paragraph Title	Page Number
4-35.	General	4-26
4-36.	Explanation of Columns	4-26
4-37.	Troubleshooting Symptom Index	4-27
Table 4-3.	Unit Troubleshooting	4-28

4-35. GENERAL.

a. This section provides information for identifying and correcting malfunctions that you may find while operating and maintaining the dump truck body.

b. The Troubleshooting Symptom Index (paragraph 4-37) lists common malfunctions which may occur and refers you to the proper page in Table 4-3 for a troubleshooting procedure.

c. If you are unaware of the location of an item mentioned in troubleshooting, refer to paragraphs 1-11, 2-1 or 2-2.

d. Before performing troubleshooting, read and follow all safety instructions found in the warning summary at the front of this manual.

e. This section cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed, or is not corrected by the listed corrective actions, notify your supervisor.

f. When troubleshooting a malfunction:

(1) Locate the symptom or symptoms in paragraph 4-37 that best describes the malfunction. If the appropriate symptom is not listed, notify your supervisor.

(2) Turn to the page in Table 4-3 where the troubleshooting procedures for the malfunction in question are described. Headings at the top of each page show how each troubleshooting procedure is organized: Malfunction, Test or Inspection (in step number order), and Corrective Action.

(3) Perform each step in the order listed until the malfunction is corrected and the item being inspected is operational. DO NOT perform any maintenance task unless the troubleshooting procedure tells you to do so.

4-36. EXPLANATION OF COLUMNS.

The columns in Table 4-3 are defined as follows:

(1) **MALFUNCTION.** A visual or operational indication that something is wrong with the equipment.

(2) **TEST OR INSPECTION.** A procedure to isolate the problem in a system or component.

(3) **CORRECTIVE ACTION.** A procedure to correct the problem.

4-37. TROUBLESHOOTING SYMPTOM INDEX.

	Troubleshooting Procedure Page
DUMP BODY TROUBLESHOOTING	
HYDRAULIC SYSTEM	
Dump Body Lowers With Hydraulic Control Lever in the Neutral Position and PTO Disengaged	4-31
Dump Body Lowers With Hydraulic Control Lever in the Neutral Position and PTO Engaged	4-31
Dump Body Raises and Lowers Sluggishly	4-31
Dump Body Raises With Hydraulic Control Lever in the Neutral Position and PTO Engaged	4-31
Dump Body Will Not Raise and/or Lower	4-30
MCS (M917A1 w/MCS and M917A2 w/MCS)	
MCS Gate Will Not Operate	4-28
MCS Gate Will Not Operate With Driver's Controls	4-28
MCS Gate Will Not Operate With Remote Control	4-29
MCS Gates Open or Close When Remote Control Is Connected	4-29
One or More MCS Gates Will Not Open or Close Properly	4-30
TAILGATE	
Tailgate Assembly Lock Will Not Release	4-30

Table 4-3. Unit Troubleshooting.

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

MCS (M917A1 W/MCS AND M917A2 W/MCS)

1. MCS GATE WILL NOT OPERATE.

Step 1. Check for air leaks throughout vehicle (chassis) air system.

Tighten or replace leaking or damaged air system components (TM 9-2320-363-20 or TM 9-2320-302-20).

Step 2. Check for leaking air hoses, fittings, or valves on MCS tailgate.

Tighten or replace leaking or damaged air hoses and fittings (paragraph 4-59).

Step 3. Check for leaking or damaged MCS air reservoir.

Replace MCS air reservoir (paragraph 4-55).

Step 4. Check for leaking or damaged MCS air cylinder.

Replace or repair MCS air cylinder (paragraph 4-56, 4-57, or 4-58).

2. MCS GATE WILL NOT OPERATE WITH DRIVER'S CONTROLS.

Step 1. Check for air leaks throughout vehicle (chassis) air system.

Tighten or replace leaking or damaged air system components (TM 9-2320-363-20 or TM 9-2320-302-20).

Step 2. Check MCS tailgate for leaking or damaged air system components.

Tighten or replace leaking or damaged components (paragraphs 4-55 thru 4-59).

NOTE

For assistance in troubleshooting an MCS electrical malfunction, refer to wiring diagrams (paragraph 4-49).

Step 3. Check MCS fuse for continuity.

Replace damaged fuse (TM 9-2320-363-20 or TM 9-2320-302-20).

Step 4. Check driver's MCS control unit switches for voltage and continuity.

Replace damaged switches (paragraph 4-42).

Step 5. Check truck-to-MCS tailgate wiring harness for voltage and continuity.

Repair or replace damaged truck-to-MCS tailgate wiring harness (paragraph 4-47).

Step 6. Check MCS tailgate wiring harness and air cylinder solenoids for voltage and continuity.

Repair or replace damaged MCS tailgate wiring harness (paragraph 4-48).

Replace damaged MCS air cylinder solenoids (paragraph 4-57).

Table 4-3. Unit Troubleshooting (Con't).

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

3. MCS GATE WILL NOT OPERATE WITH REMOTE CONTROL.

Step 1. Check for air leaks throughout vehicle (chassis) air system.

Tighten or replace leaking or damaged air system components (TM 9-2320-363-20 or TM 9-2320-302-20).

Step 2. Check MCS tailgate for leaking or damaged air system components.

Tighten or replace leaking or damaged components (paragraphs 4-55 thru 4-59).

NOTE

For assistance in troubleshooting an MCS electrical malfunction, refer to wiring diagrams (paragraph 4-49).

Step 3. Check MCS fuse for continuity.

Replace damaged fuse (TM 9-2320-363-20 or TM 9-2320-302-20).

Step 4. Check MCS remote control switches for voltage and continuity.

Replace damaged switches (paragraph 4-43).

Replace damaged remote control.

Step 5. Check MCS remote control cable for voltage and continuity.

Replace damaged remote control cable (paragraph 4-43).

Step 6. Check truck-to-MCS tailgate wiring harness for voltage and continuity.

Repair or replace damaged truck-to-MCS tailgate wiring harness (paragraph 4-47).

Step 7. Check MCS tailgate wiring harness and MCS air cylinder solenoids for voltage and continuity.

Repair or replace damaged MCS tailgate wiring harness (paragraph 4-48).

Replace damaged MCS air cylinder solenoids (paragraph 4-57).

4. MCS GATES OPEN OR CLOSE WHEN REMOTE CONTROL IS CONNECTED.

NOTE

For assistance in troubleshooting an MCS electrical malfunction, refer to wiring diagrams (paragraph 4-49).

Step 1. Check MCS remote control switches for voltage and continuity.

Replace damaged switches (paragraph 4-43).

Replace damaged remote control.

Table 4-3. Unit Troubleshooting (Con't).

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

Step 2. Check MCS remote control cable for voltage and continuity.

Replace damaged remote control cable (paragraph 4-43).

Step 3. Check MCS tailgate wiring harness and MCS air cylinder solenoids for voltage and continuity.

Repair or replace damaged MCS tailgate wiring harness (paragraph 4-48).

Replace damaged MCS air cylinder solenoids (paragraph 4-57).

5. ONE OR MORE MCS GATES WILL NOT OPEN OR CLOSE PROPERLY.

Step 1. Check MCS tailgate for leaking or damaged air system components.

Tighten or replace leaking or damaged components (paragraphs 4-55 thru 4-59).

Step 2. Check MCS tailgate for damaged gates.

Replace damaged gate (paragraph 4-54).

Step 3. Check MCS tailgate for damaged gate adjustment tubes and locking pins.

Replace damaged adjustment tube (paragraph 4-60).

TAILGATE

6. TAILGATE ASSEMBLY LOCK WILL NOT RELEASE.

Step 1. Check for air leaks throughout vehicle (chassis) air system.

Tighten or replace leaking or damaged air system components (TM 9-2320-363-20 or TM 9-2320-302-20).

Step 2. Check for damaged or leaking tailgate release air cylinder.

Repair or replace tailgate release air cylinder (paragraph 4-51 or 4-58).

Step 3. Check for damaged tailgate locking linkage.

Notify Direct Support.

HYDRAULIC SYSTEM

7. DUMP BODY WILL NOT RAISE AND/OR LOWER.

Step 1. Check if Power Take-Off (PTO) is operating properly.

Check PTO operation (TM 9-2320-363-10 or TM 9-2320-302-10).

Step 2. Check for damaged hydraulic hoses.

Replace damaged hydraulic hoses (paragraph 4-74).

Step 3. Check for damaged or out of adjustment hydraulic control lever cable.

Adjust hydraulic control lever cable (paragraph 4-73).

Replace damaged hydraulic control lever cable (paragraph 4-73).

Table 4-3. Unit Troubleshooting (Con't).

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
Step 4. Dump body still will not operate properly. Notify Direct Support.
8. DUMP BODY RAISES WITH HYDRAULIC CONTROL LEVER IN THE NEUTRAL POSITION AND PTO ENGAGED.
Step 1. Check for damaged or out of adjustment hydraulic control lever cable. Adjust hydraulic control lever cable (paragraph 4-73). Replace damaged hydraulic control lever cable (paragraph 4-73).
Step 2. Dump body still will not operate properly. Notify Direct Support.
9. DUMP BODY LOWERS WITH HYDRAULIC CONTROL LEVER IN THE NEUTRAL POSITION AND PTO ENGAGED.
Step 1. Check for damaged or out of adjustment hydraulic control lever cable. Adjust hydraulic control lever cable (paragraph 4-73). Replace damaged hydraulic control lever cable (paragraph 4-73).
Step 2. Dump body still will not operate properly. Notify Direct Support.
10. DUMP BODY LOWERS WITH HYDRAULIC CONTROL LEVER IN THE NEUTRAL POSITION AND PTO DISENGAGED.
Step 1. Check for damaged or out of adjustment hydraulic control lever cable. Adjust hydraulic control lever cable (paragraph 4-73). Replace damaged hydraulic control lever cable (paragraph 4-73).
Step 2. Dump body still will not operate properly. Notify Direct Support.
11. DUMP BODY RAISES AND LOWERS SLUGGISHLY.
Step 1. Check hydraulic filter service indicator gage. Service hydraulic oil filter (paragraph 4-77).
Step 2. Check engine idle speed (TM 9-2320-363-20 or TM 9-2320-302-20).
Step 3. Check for damaged hydraulic hoses. Replace damaged hydraulic hoses (paragraph 4-74).
Step 4. Check for binding bearings at pivot points of dump body, hydraulic cylinder, and stabilizer. Notify Direct Support.

Section VI. ELECTRICAL SYSTEM MAINTENANCE

Paragraph Number	Paragraph Title	Page Number
4-38.	Body Up Switch Replacement	4-32
4-39.	Transport Lock Switch Replacement	4-34
4-40.	Taillight Replacement	4-36
4-41.	Marker Clearance Light Replacement	4-37
4-42.	MCS Control Unit Maintenance (M917A1 w/MCS and M917A2 w/MCS)	4-38
4-43.	MCS Remote Control Repair (M917A1w/MCS and M917A2 w/MCS)	4-42
4-44.	Body Up and Transport Lock Switches Wiring Harness Maintenance	4-47
4-45.	Beacon Warning Light Wiring Harness Maintenance	4-49
4-46.	Lights Wiring Harness Maintenance	4-52
4-47.	Truck-to-MCS Tailgate Wiring Harness Maintenance (M917A1 w/MCS and M917A2 w/MCS)	4-54
4-48.	MCS Tailgate Wiring Harness Maintenance (M917A1 w/MCS and M917A2 w/MCS)	4-58
4-49.	Wiring Diagrams	4-62

4-38. BODY UP SWITCH REPLACEMENT.

This task covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Dump body raised and supported on body props (paragraph 2-15).
- Batteries disconnected (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Master battery switch OFF (TM 9-2320-302-10) (M917A2 and M917A2 w/MCS)

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Marker tags (Item 20, Appendix F)

General Safety Instructions:

- NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY.

WARNING

NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.

4-38. BODY UP SWITCH REPLACEMENT (Con't).

a. REMOVAL

NOTE

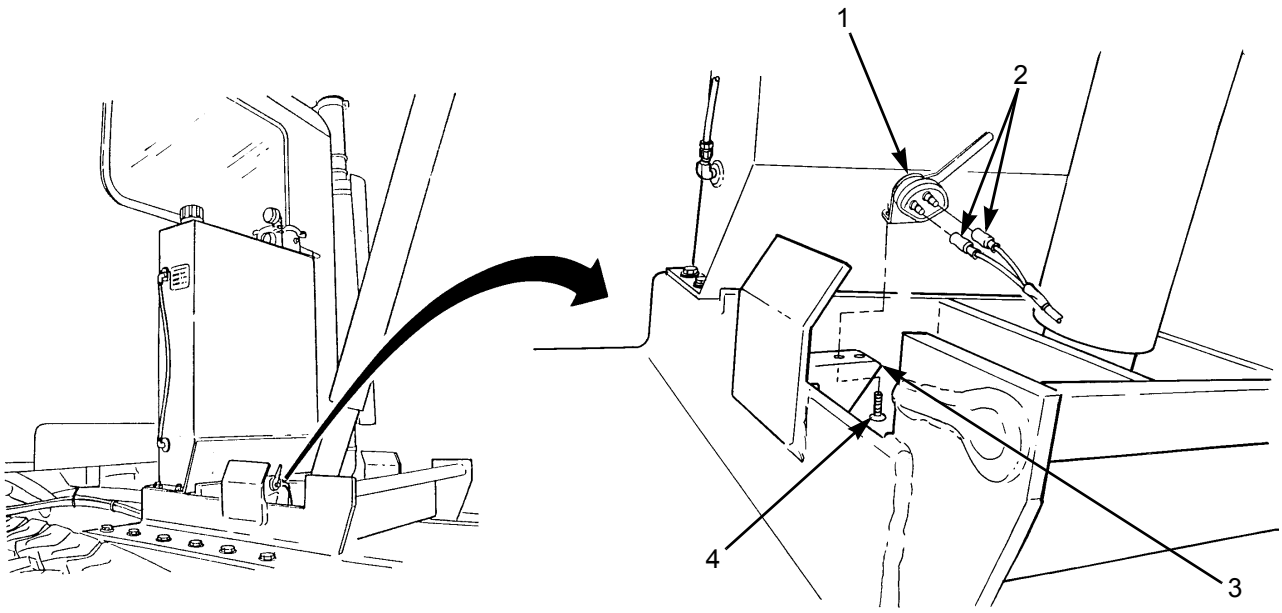
Wires should be tagged before disconnecting (paragraph 4-17).

1. Disconnect two wiring harness leads (2) from body up switch (1).

NOTE

To ensure proper installation, note switch lever position.

2. Remove two screws (4) and body up switch (1) from cylinder support frame (3).



b. INSTALLATION

1. Install body up switch (1) on cylinder support frame (3) with two screws (4).
2. Connect two wiring harness leads (2) to body up switch (1).

FOLLOW-ON TASKS:

- Connect batteries (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Remove body props and lower dump body (paragraph 2-15).
- Check operation of body up switch (paragraph 2-1).

4-39. TRANSPORT LOCK SWITCH REPLACEMENT.

This task covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Dump body raised and supported on body props (paragraph 2-15).
- Batteries disconnected (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Master battery switch OFF (TM 9-2320-302-10) (M917A2 and M917A2 w/MCS)

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Tie wraps (Item 19, Appendix F)

General Safety Instructions:

- NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY.

WARNING

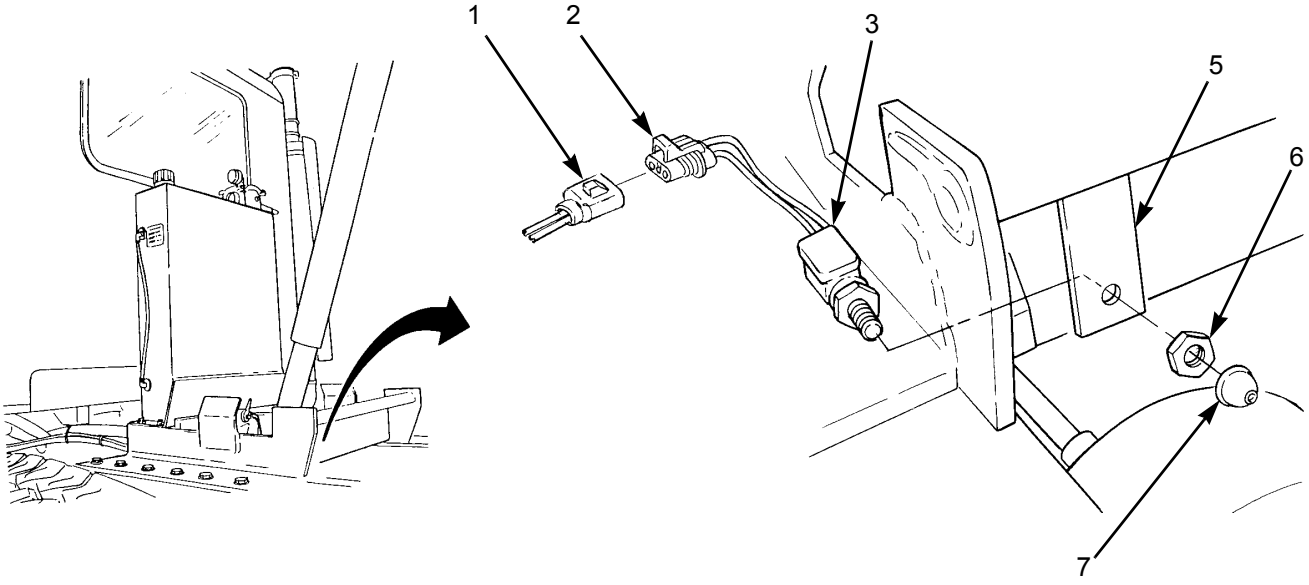
NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.

a. REMOVAL

NOTE

Note location of tie wraps prior to removal to aid in installation.

1. Disconnect transport lock switch connector (2) from wiring harness connector (1).
2. Remove button (7), nut (6), and transport lock switch (3) from chassis mount (5).



4-39. TRANSPORT LOCK SWITCH REPLACEMENT (Con't).

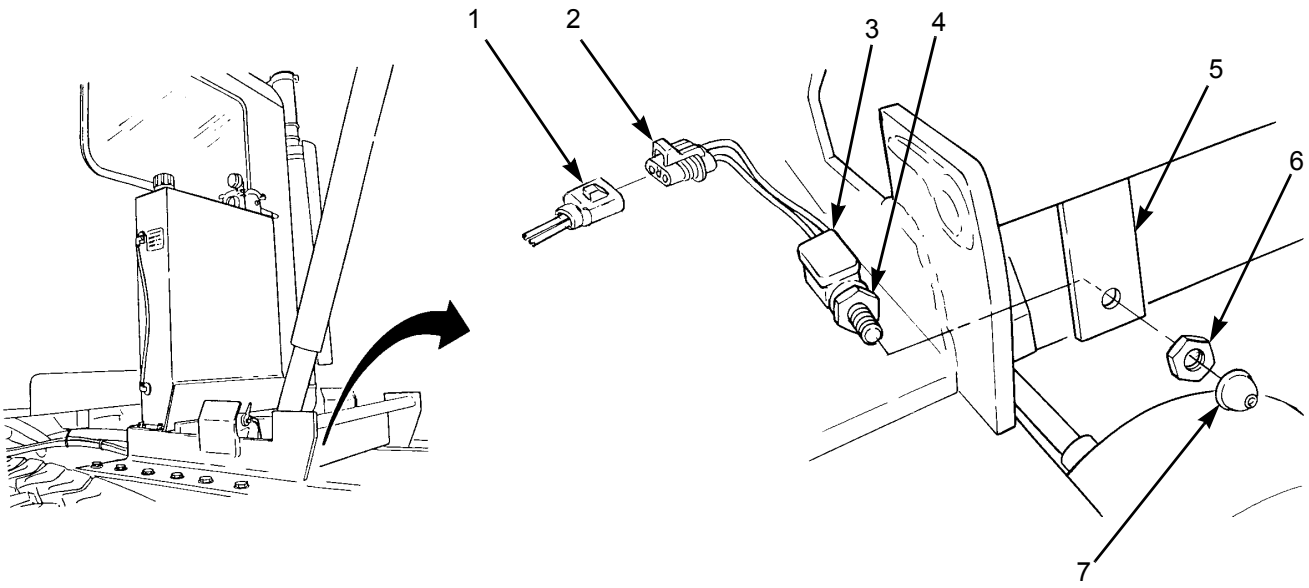
NOTE

To ensure proper installation, note position of jamnut on transport lock switch.

3. Remove jamnut (4) from transport lock switch (3).

b. INSTALLATION

1. Install jamnut (4) on transport lock switch (3) in same position as noted during removal.
2. Position transport lock switch (3) through hole in chassis mount (5) and install nut (6) and button (7).
3. Connect transport lock switch connector (2) to wiring harness connector (1).
4. Install new tie wraps, as required.



FOLLOW-ON TASKS:

- Connect batteries (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Remove body props and lower dump body (paragraph 2-15).
- Check operation of transport lock switch (paragraph 2-1).

4-40. TAILLIGHT REPLACEMENT.

This task covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

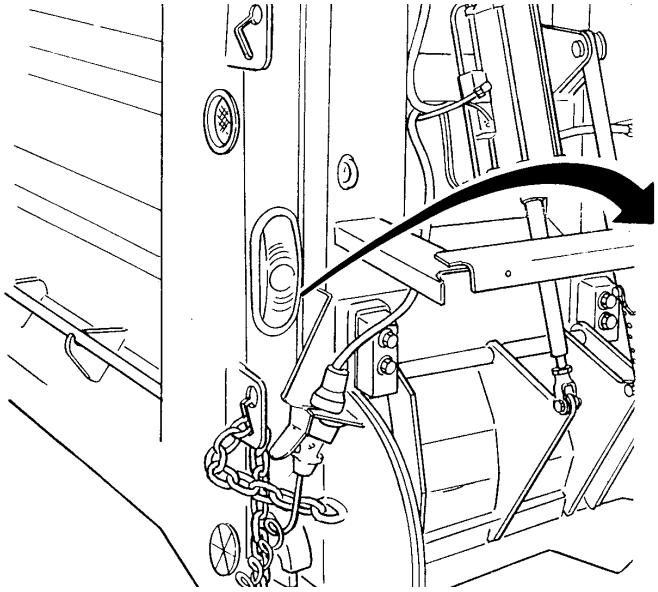
- Batteries disconnected (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Master battery switch OFF (TM 9-2320-302-10) (M917A2 and M917A2 w/MCS)

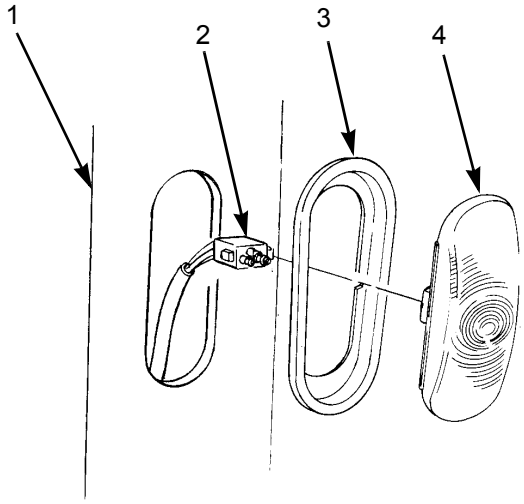
Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

a. REMOVAL

1. Remove taillight (4) from grommet (3).
2. Disconnect lights wiring harness connector (2) from taillight (4). Remove taillight.
3. Remove grommet (3) from dump body (1).





b. INSTALLATION

1. Install grommet (3) in dump body (1).
2. Connect lights wiring harness connector (2) to taillight (4).
3. Install taillight (4) in grommet (3).

FOLLOW-ON TASKS:

- Connect batteries (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Check operation of taillight (TM 9-2320-363-10 or TM 9-2320-302-10).

4-41. MARKER CLEARANCE LIGHT REPLACEMENT.

This task covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Batteries disconnected (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Master battery switch OFF (TM 9-2320-302-10) (M917A2 and M917A2 w/MCS)

Tools/Test Equipment:

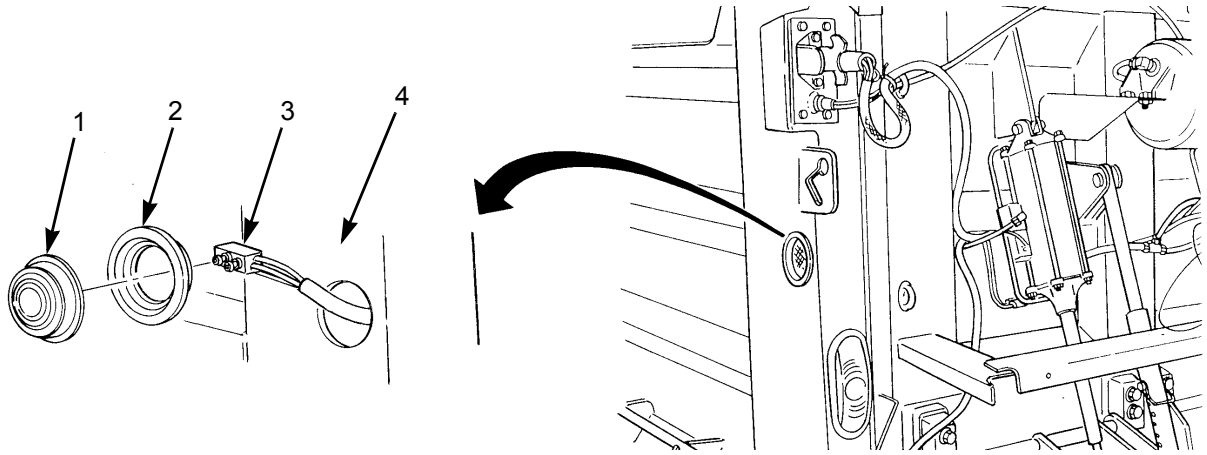
- General mechanic's tool kit (Item 8, Appendix I)

NOTE

There is a marker clearance light on each side of dump body and a cluster of three marker clearance lights on bracket at rear hinge. Replacement of a dump body marker clearance light is shown.

a. REMOVAL

1. Remove marker clearance light (1) from grommet (2).
2. Disconnect lights wiring harness connector (3) from back of marker clearance light (1). Remove marker clearance light.
3. Remove grommet (2) from dump body (4).



b. INSTALLATION

1. Install grommet (2) in dump body (4).
2. Connect lights wiring harness connector (3) to back of marker clearance light (1).
3. Install marker clearance light (1) in grommet (2).

FOLLOW-ON TASKS:

- Connect batteries (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Check operation of marker clearance lights (TM 9-2320-363-10 or TM 9-2320-302-10).

4-42. MCS CONTROL UNIT MAINTENANCE (M917A1 W/MCS and M917A2 W/MCS).

This task covers:

M917A1 W/MCS
a. Removal
b. Disassembly
c. Cleaning and Inspection
d. Assembly
e. Installation

M917A2 W/MCS
f. MCS Switch Replacement

Initial Setup:

Equipment Conditions:

- Batteries disconnected (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Master battery switch OFF (TM 9-2320-302-10) (M917A2 and M917A2 w/MCS)

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Marker tags (Item 20, Appendix F)

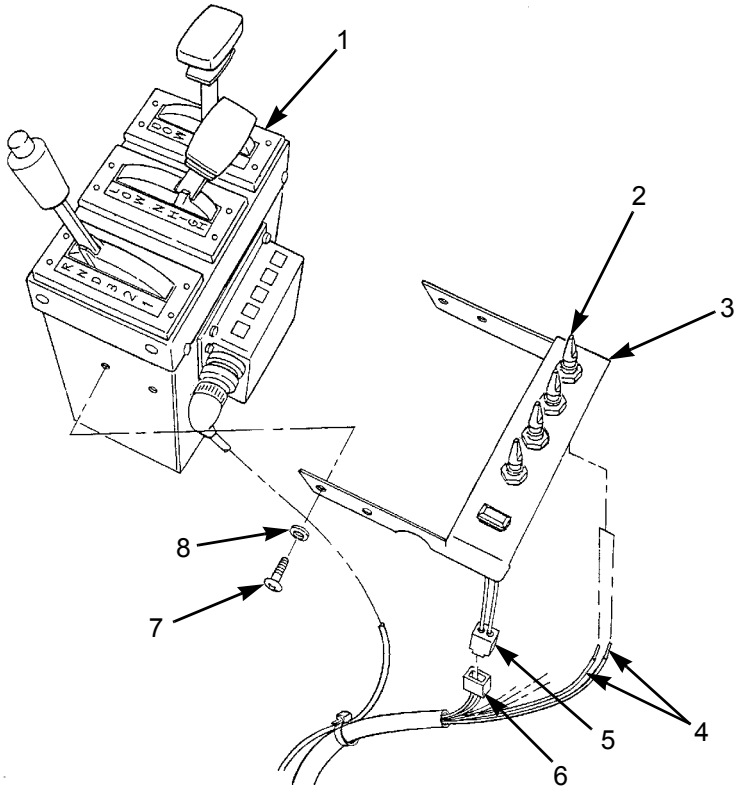
M917A1 W/MCS

a. REMOVAL

NOTE

Wires should be tagged before disconnecting (paragraph 4-17).

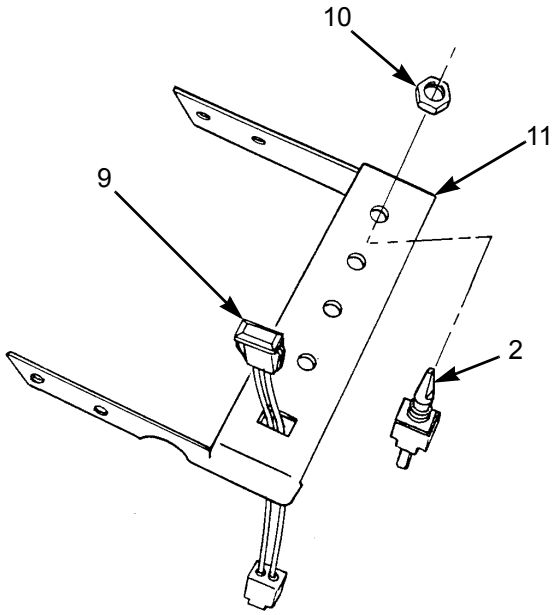
1. Remove four screws (7), washers (8), and MCS control unit (3) from shift tower (1).
2. Disconnect indicator light connector (5) from wiring harness connector (6).
3. Disconnect four wiring harness leads (4) from toggle switches (2). Remove MCS control unit (3).



4-42. MCS CONTROL UNIT MAINTENANCE (M917A1 W/MCS and M917A2W/MCS) (Con't).

b. DISASSEMBLY

1. Remove indicator light (9) from bracket (11).
2. Remove four nuts (10) and toggle switches (2) from bracket (11).



c. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions.*

d. ASSEMBLY

1. Install four toggle switches (2) to bracket (11) with four nuts (10).
2. Install indicator light (9) to bracket (11).

e. INSTALLATION

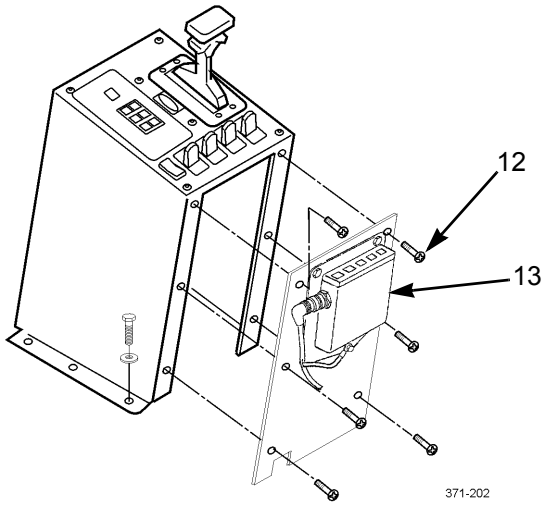
1. Connect four wiring harness leads (4) to toggle switches (2).
2. Connect wiring harness connector (6) to indicator light connector (5).
3. Install MCS control unit (3) on shift tower (1) with four washers (8) and screws (7).

4-42. MCS CONTROL UNIT MAINTENANCE (M917A1 W/MCS and M917A2W/MCS) (Con't).

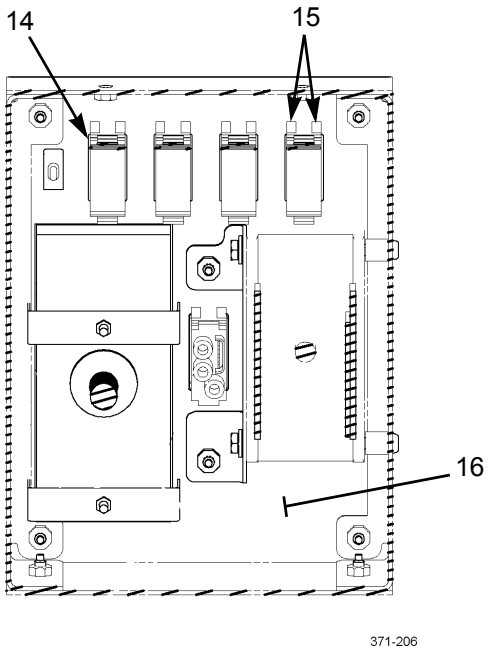
M917A2 W/MCS

f. MCS SWITCH REPLACEMENT

1. Drain air system (TM 9-2320-302-10).
2. Remove six screws (12) and rear panel (13).

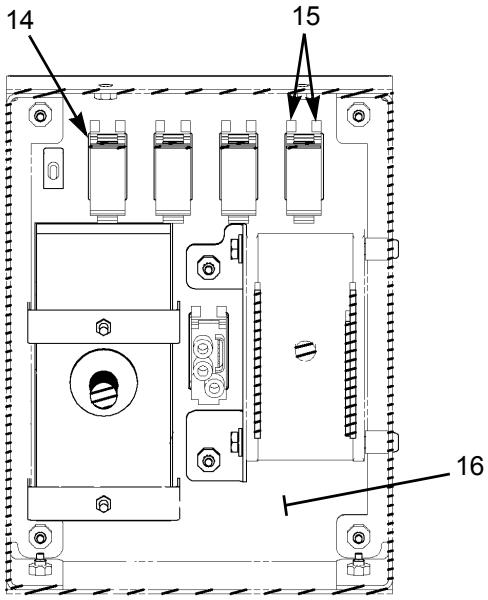


3. Disconnect wire lead at faulty switch (14).
4. Depress two tangs (15) on switch (14) and remove switch through top of shift tower cover (16).

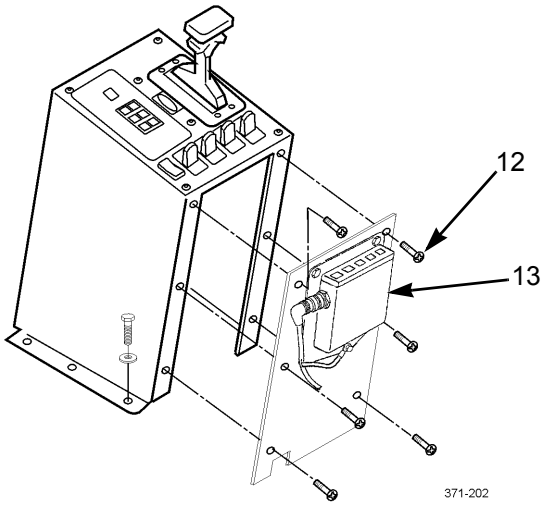


4-42. MCS CONTROL UNIT MAINTENANCE (M917A1 W/MCS and M917A2W/MCS) (Con't).

5. Position switch (14) on shift tower cover (16).
6. Apply slight downward pressure on switch (14) until two tangs (15) snap into place.
7. Connect wire lead on switch.



8. Install rear panel (13) with six screws (12).



FOLLOW-ON TASKS:

- Connect batteries (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Check operation of MCS control unit (paragraph 2-1).

4-43. MCS REMOTE CONTROL REPAIR (M917A1 W/MCS AND M917A2 W/MCS).

This task covers:

a. Disassembly
b. Cleaning and Inspection
c. Assembly

Initial Setup:

Equipment Conditions:

- MCS remote control disconnected from MCS tailgate (paragraph 2-13).

Materials/Parts:

- Marker tags (Item 20, Appendix F)
- One gasket

Tools/Test Equipment:

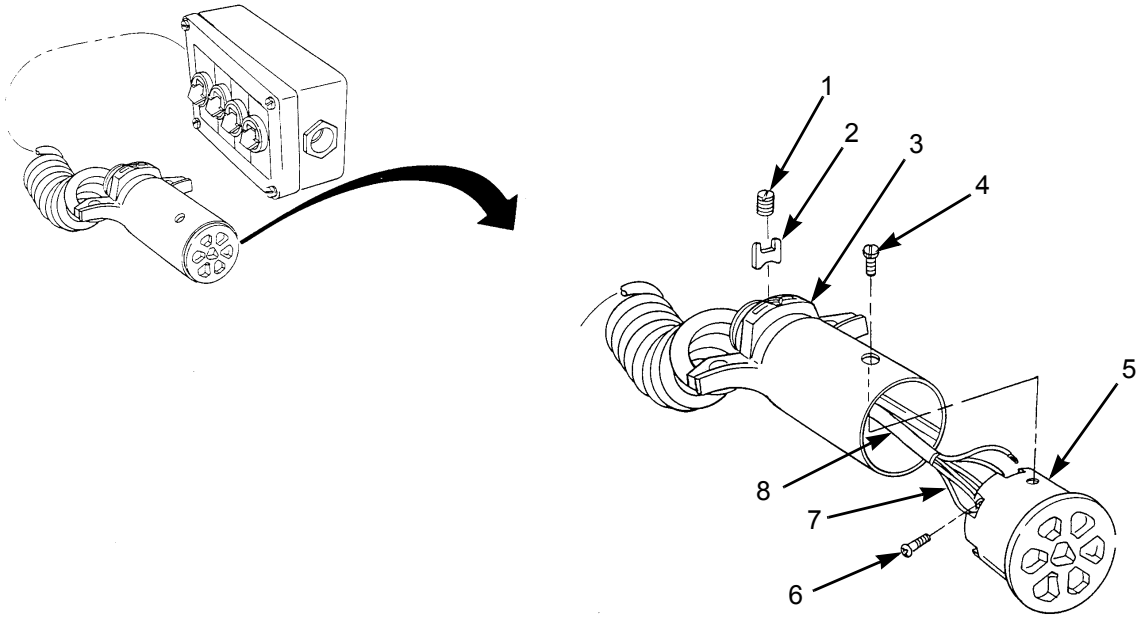
- General mechanic's tool kit (Item 8, Appendix I)

a. DISASSEMBLY

NOTE

- **Wires should be tagged and wire color noted before disconnecting (paragraph 4-17).**
- **Perform steps 1 thru 3 to disassemble plug-in connector.**

1. Remove screw (4), screw (1), and clamp (2) from connector housing (3).
2. Pull connector (5) outward and remove seven screws (6) to remove connector and connector housing (3) from wires of cable (8).
3. Remove jumper wire (7).

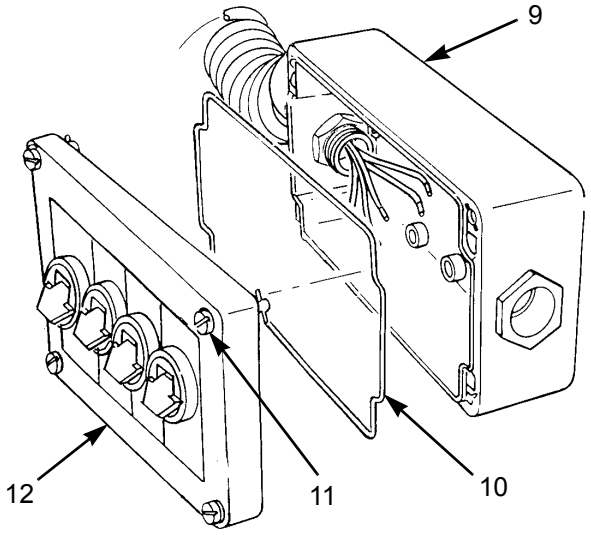


4-43. MCS REMOTE CONTROL REPAIR (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

NOTE

Perform steps 4 thru 10 to disassemble control box.

4. Loosen four twist-lock screws (11) and remove cover (12) from control box (9).
5. Remove gasket (10) from cover (12). Discard gasket.



NOTE

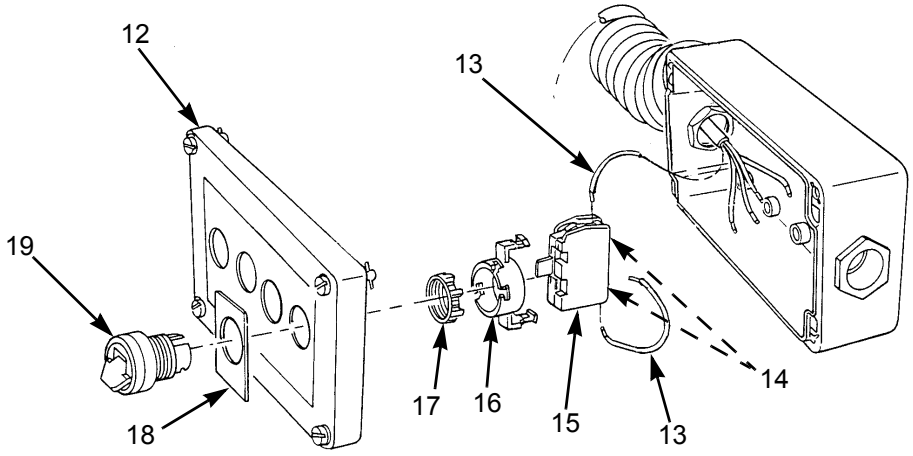
Perform steps 6 thru 8 for each of four switches.

6. Loosen two screws (14) and disconnect two wires (13) from switch (15).

NOTE

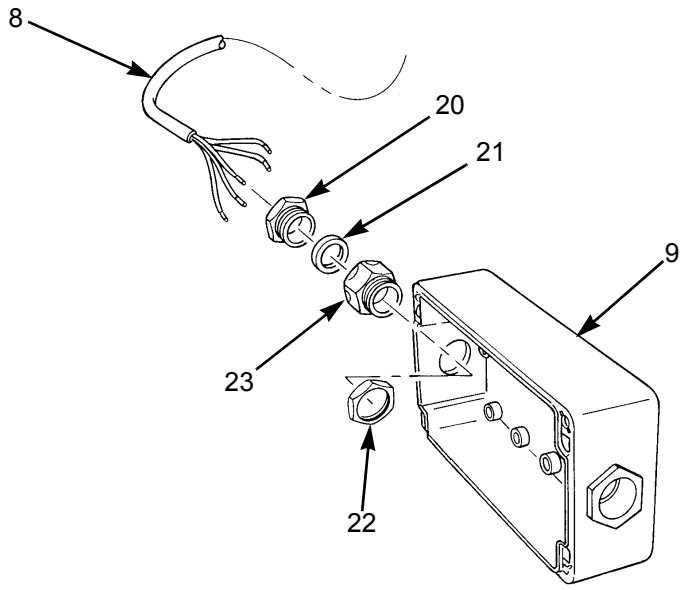
Note position of switch and retainer for assembly.

7. Remove switch (15) and retainer (16) from switch housing (19).
8. Remove ring (17), switch housing (19), and data plate (18) from cover (12).



4-43. MCS REMOTE CONTROL REPAIR (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

9. Remove locking plug (20), grommet (21), and cable (8) from control box (9).
10. Remove nut (22) and bushing (23).



b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

c. ASSEMBLY

NOTE

Perform steps 1 thru 7 to assemble control box.

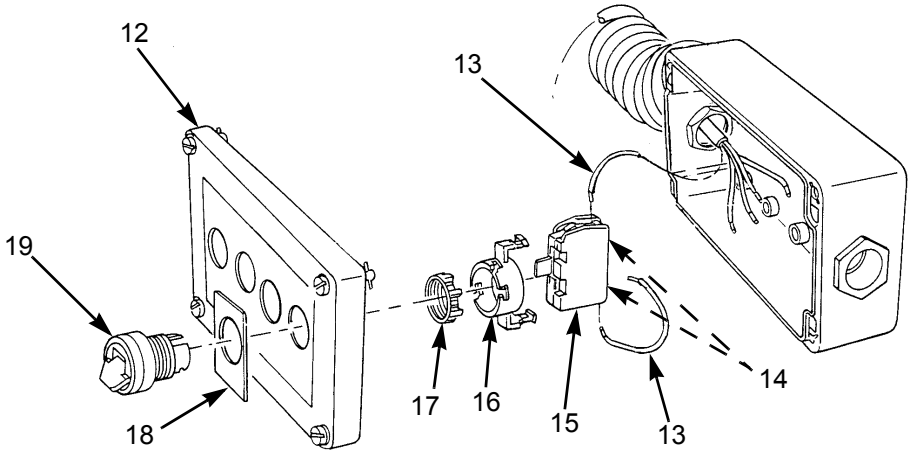
1. Install bushing (23) and nut (22) to control box (9).
2. Install end of cable (8), grommet (21), and locking plug (20).

4-43. MCS REMOTE CONTROL REPAIR (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

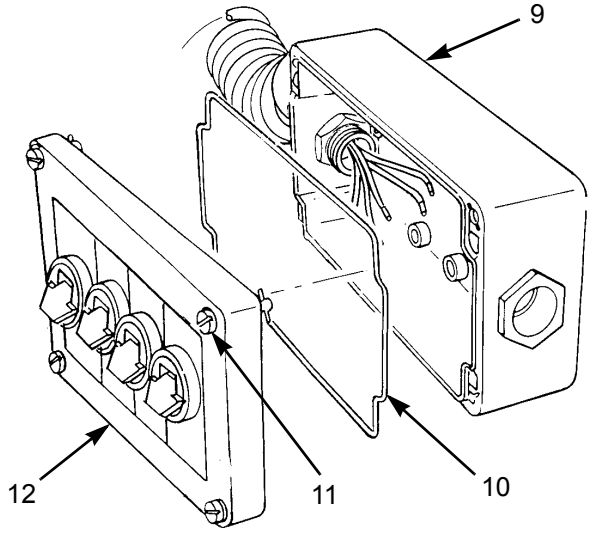
NOTE

Perform steps 3 thru 5 for each of four switches.

3. Install data plate (18), switch housing (19), and ring (17) to cover (12).
4. Install retainer (16) and switch (15) to switch housing (19).
5. Connect two wires (13) to switch (15) and tighten two screws (14).

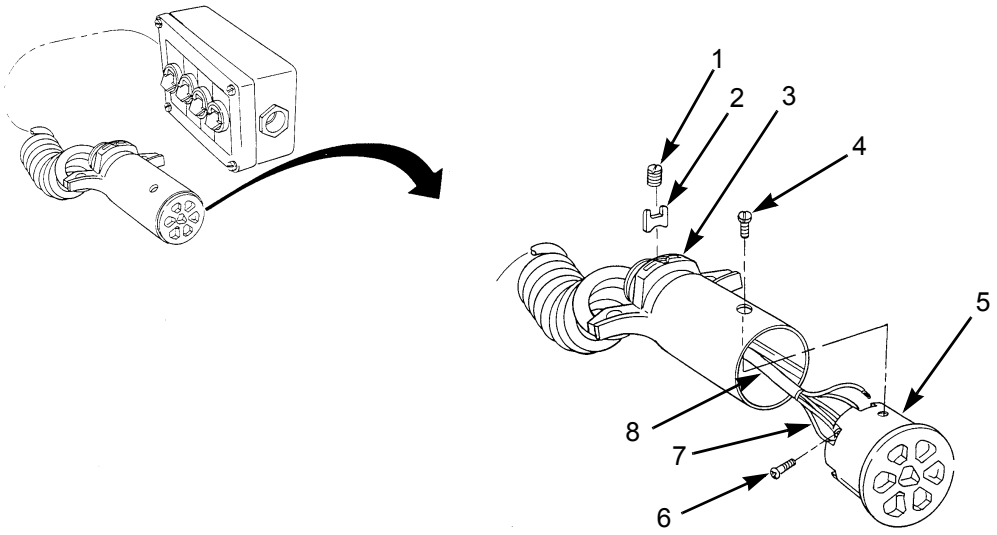


6. Install new gasket (10) to cover (12).
7. Install cover (12) to control box (9) and tighten four twist-lock screws (11).



4-43. MCS REMOTE CONTROL REPAIR (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

8. Install jumper wire (7) to connector (5).
9. With cable (8) thru connector housing (3), install connector (5) to wires of cable with seven screws (6). Push connector into connector housing.
10. Install clamp (2), screw (1), and screw (4).



FOLLOW-ON TASKS:

- Check operation of MCS remote control (paragraph 2-13).

4-44. BODY UP AND TRANSPORT LOCK SWITCHES WIRING HARNESS MAINTENANCE.

This task covers:

a. Removal
b. Repair
c. Installation

Initial Setup:

Equipment Conditions:

- Dump body raised and supported on body props (paragraph 2-15).
- Batteries disconnected (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Master battery switch OFF (TM 9-2320-302-10) (M917A2 and M917A2 w/MCS)

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Marker tags (Item 20, Appendix F)
- Tie wraps (Item 19, Appendix F)

General Safety Instructions:

- NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY.

WARNING

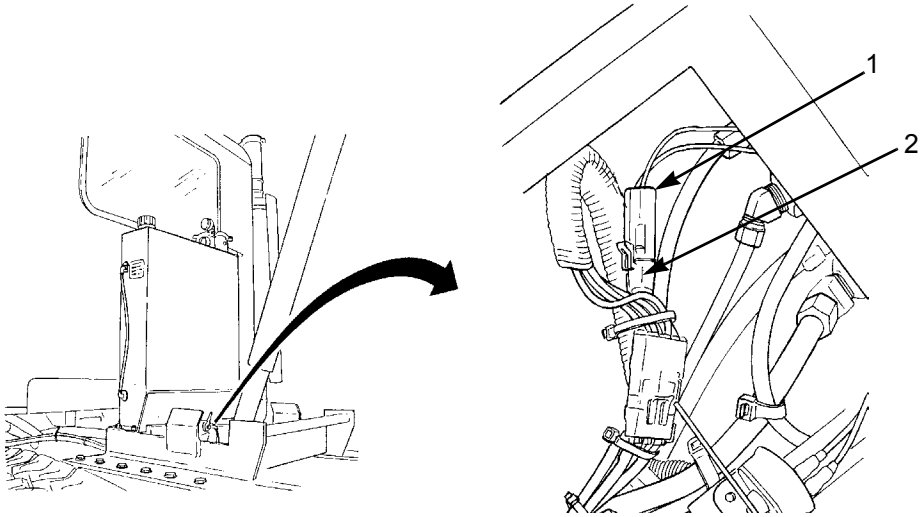
NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.

a. REMOVAL

NOTE

- **Wires should be tagged before disconnecting (paragraph 4-17).**
- **Note location of tie wraps and routing of wiring harness prior to removal to aid in installation.**

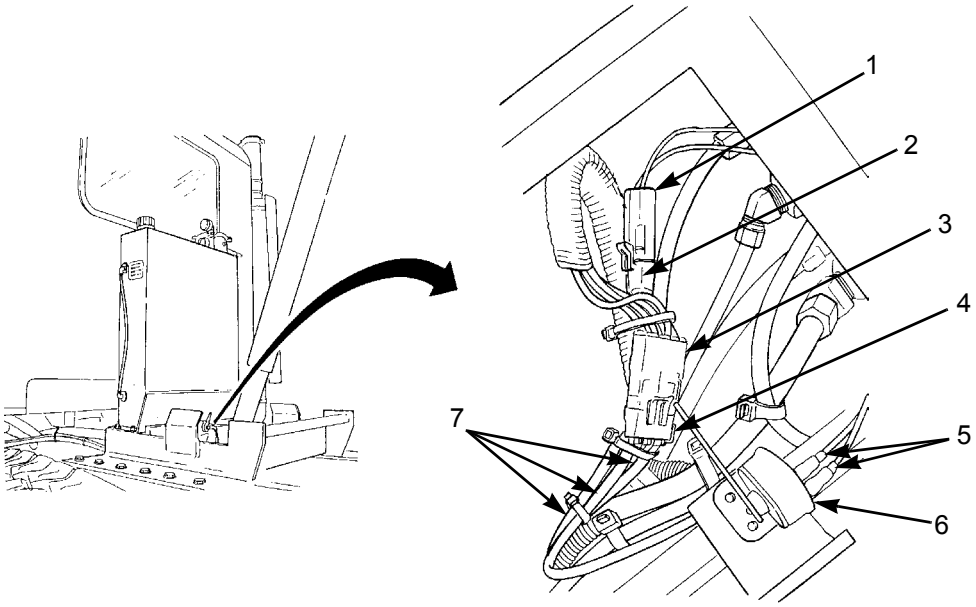
1. Remove tie wraps and discard.
2. Disconnect transport lock switch connector (1) from wiring harness connector (2).



4-44. BODY UP AND TRANSPORT LOCK SWITCHES WIRING HARNESS MAINTENANCE (Con't).

3. Disconnect two wiring harness leads (5) from body up switch (6).

4. Disconnect wiring harness connector (4) from chassis wiring harness connector (3) and remove wiring harness (7).



b. REPAIR

NOTE

Wiring harness need not be removed from vehicle to make repairs.

Repair wiring harness in accordance with instructions in Chapter 4, Section III, *General Maintenance Instructions*.

c. INSTALLATION

1. Connect wiring harness connector (4) to chassis wiring harness connector (3).

2. Connect two wiring harness leads (5) to body up switch (6).

3. Connect transport lock switch connector (1) to wiring harness connector (2).

4. Secure wiring harness (7) with new tie wraps.

FOLLOW-ON TASKS:

- Connect batteries (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Check operation of body up and transport lock switches (paragraph 2-1).

4-45. BEACON WARNING LIGHT WIRING HARNESS MAINTENANCE.

This task covers:

a. Removal
b. Repair
c. Installation

Initial Setup:

Equipment Conditions:

- Dump body raised and supported on body props (paragraph 2-15).
- Batteries disconnected (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Master battery switch OFF (TM 9-2320-302-10) (M917A2 and M917A2 w/MCS)

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Marker tags (Item 20, Appendix F)

Materials/Parts (Con't):

- Locknuts (as required)
- Tie wraps (Item 19, Appendix F)

General Safety Instructions:

- NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY.

WARNING

NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.

a. REMOVAL

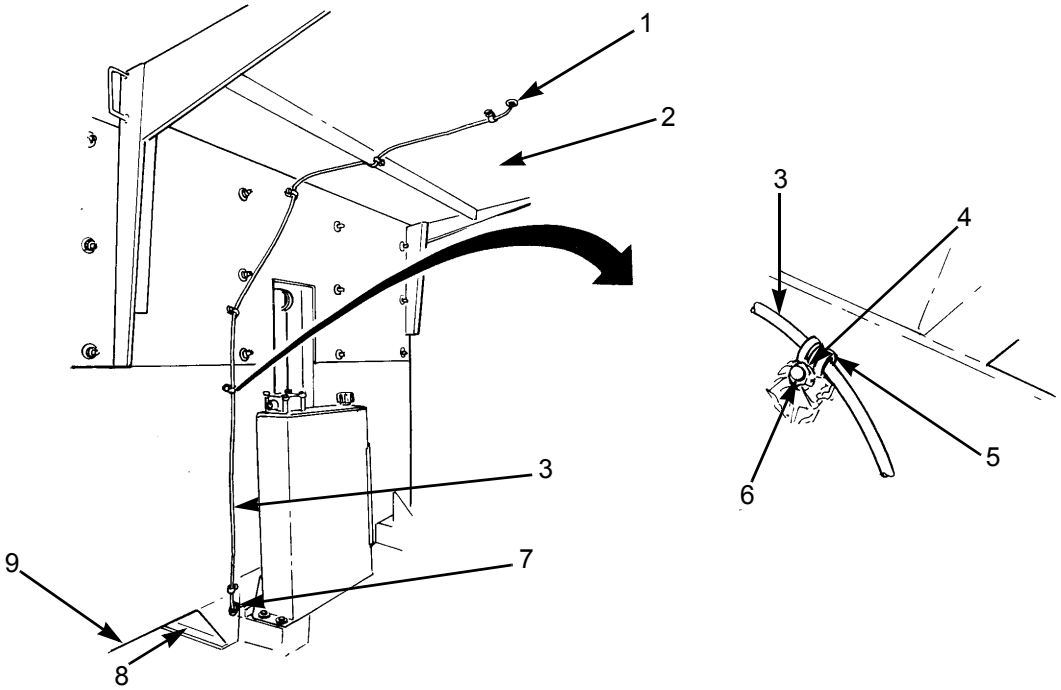
NOTE

- **Wires should be tagged before disconnecting (paragraph 4-17).**
- **Note location of tie wraps and routing of wiring harness prior to removal to aid in installation.**

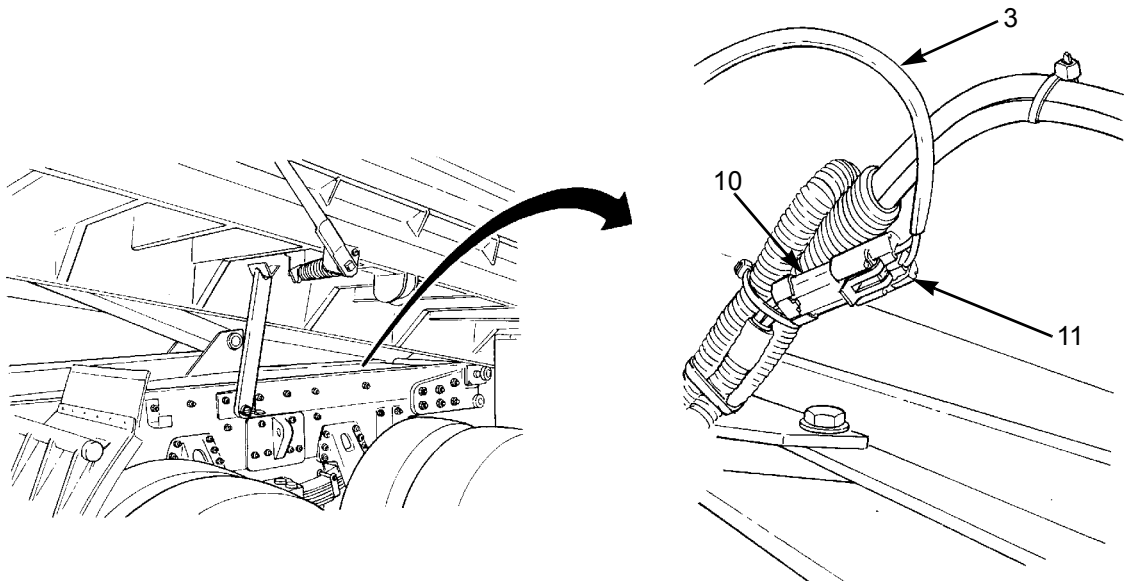
1. At beacon warning light, disconnect two wiring harness connectors from beacon warning light connectors.

4-45. BEACON WARNING LIGHT WIRING HARNESS MAINTENANCE (Con't).

2. Remove wiring harness (3) from cab shield grommet (1).
3. Remove locknuts (4) and clamps (5) securing wiring harness (3) to welded studs (6) on cab shield (2) and dump body (9). Discard locknuts.
4. Remove wiring harness (3) from grommet (7) at front right side of dump body (9).
5. Repeat step 3 to release wiring harness (3) from welded studs on inner surface of right side dump body frame rail (8). Discard locknuts.



6. Disconnect wiring harness connector (11) from chassis wiring harness connector (10).
7. Remove wiring harness (3).



4-45. BEACON WARNING LIGHT WIRING HARNESS MAINTENANCE (Con't).

b. REPAIR

NOTE

Wiring harness need not be removed from vehicle to make repairs.

Repair wiring harness in accordance with instructions in Chapter 4, Section III, *General Maintenance Instructions*.

c. INSTALLATION

1. Position wiring harness (3) between points of connection.
2. Connect wiring harness connector (11) to chassis wiring harness connector (10).
3. Route wiring harness (3) along inner surface of right side dump body frame rail (8) and through grommet (7) at front of right side dump body (9).
4. Route wiring harness (3) up dump body (9) and cab shield (2) Secure with clamps (5) and new locknuts (4) on welded studs (6).
5. Secure wiring harness (3) along inner surface of right side dump body frame rail (8) with clamps (5) and new locknuts (4) on welded studs (6).
6. Install wiring harness (3) through cab shield grommet (1).
7. Install new tie wraps.

FOLLOW-ON TASKS:

- Connect batteries (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Remove body props and lower dump body (paragraph 2-15).
- Check operation of beacon warning light (TM 9-2320-363-10 or TM 9-2320-302-10).

4-46. LIGHTS WIRING HARNESS MAINTENANCE.

This task covers:

a. Removal
b. Repair
c. Installation

Initial Setup:

Equipment Conditions:

- Dump body raised and supported on body props (paragraph 2-15).
- Batteries disconnected (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Master battery switch OFF (TM 9-2320-302-10) (M917A2 and M917A2 w/MCS)

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Marker tags (Item 20, Appendix F)
- Tie wraps (Item 19, Appendix F)

References:

- TM 9-2320-363-20
- TM 9-2320-302-20

General Safety Instructions:

- NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY.

WARNING

NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.

a. REMOVAL

NOTE

- **Wires should be tagged before disconnecting (paragraph 4-17).**
- **Note location of tie wraps and routing of wiring harness prior to removal to aid in installation.**

1. Remove two wiring harness terminal leads from backup alarm (TM 9-2320-363-20 or TM 9-2320-302-20).
2. Remove taillight from each side of dump body and disconnect wiring harness (paragraph 4-40).
3. Remove marker clearance light from each side of dump body and disconnect wiring harness (paragraph 4-41).
4. Disconnect wiring harness leads (2) from three marker clearance lights (3) at rear hinge light bracket (7).
5. Disconnect wiring harness connector (5) from chassis wiring harness connector (6) and remove wiring harness (4) from dump body (1).

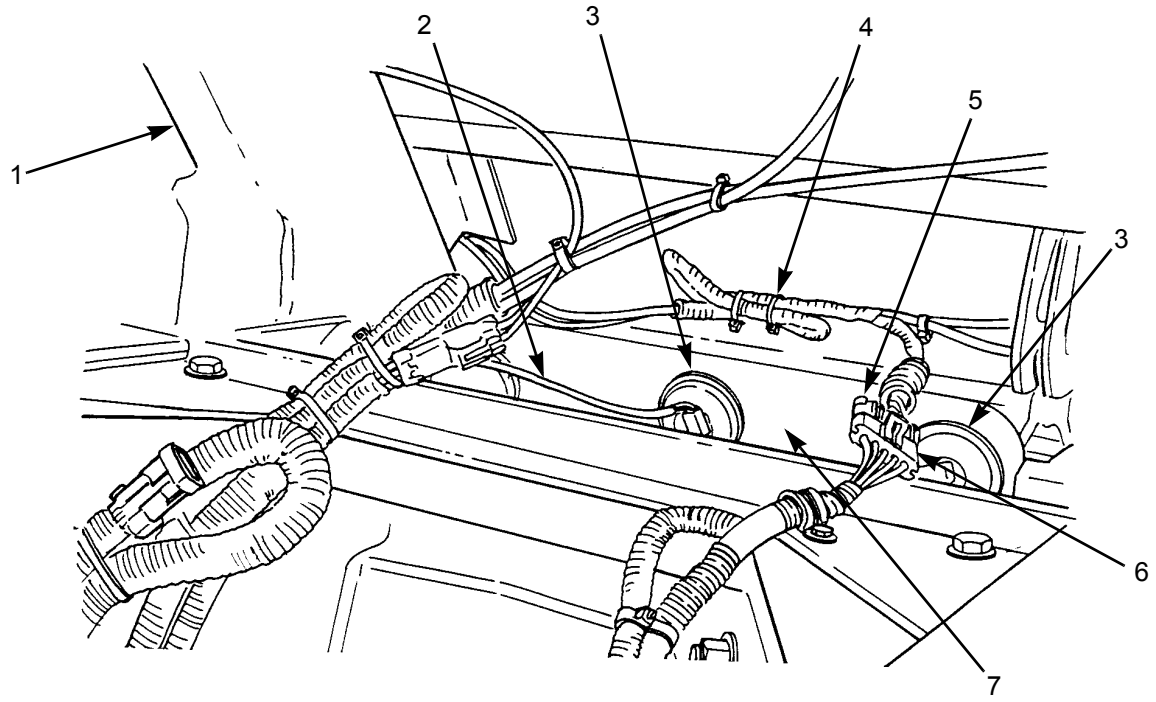
b. REPAIR

NOTE

Wiring harness need not be removed from vehicle to make repairs.

Repair wiring harness in accordance with instructions in Chapter 4, Section III, *General Maintenance Instructions*.

4-46. LIGHTS WIRING HARNESS MAINTENANCE (Con't).



c. INSTALLATION

1. Position wiring harness (4) between points of connection, routing it along channels and openings in dump body (1).
2. Connect wiring harness connector (5) to chassis wiring harness connector (6).
3. Connect wiring harness leads (2) to three marker clearance lights (3) at rear hinge light bracket (7).
4. Connect wiring harness to each taillight and install taillights (paragraph 4-40).
5. Connect wiring harness to marker clearance light on each side of dump body and install lights (paragraph 4-41).
6. Install two wiring harness terminal leads to backup alarm (TM 9-2320-363-20 or TM 9-2320-302-20).
7. Install new tie wraps.

FOLLOW-ON TASKS:

- Connect batteries (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Remove body props and lower dump body (paragraph 2-15).
- Check operation of dump body lights and backup alarm (TM 9-2320-363-10 or TM 9-2320-302-10).

4-47. TRUCK-TO-MCS TAILGATE WIRING HARNESS MAINTENANCE (M917A1 W/MCS AND M917A2 W/MCS).

This task covers:

a. Removal
b. Repair
c. Installation

Initial Setup:

Equipment Conditions:

- Dump body raised and supported on body props (paragraph 2-15).
- Batteries disconnected (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Master battery switch OFF (TM 9-2320-302-10) (M917A2 and M917A2 w/MCS)

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Tie wraps (Item 19, Appendix F)
- Marker tags (Item 20, Appendix F)
- Two self-locking nuts

General Safety Instructions:

- NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY.

WARNING

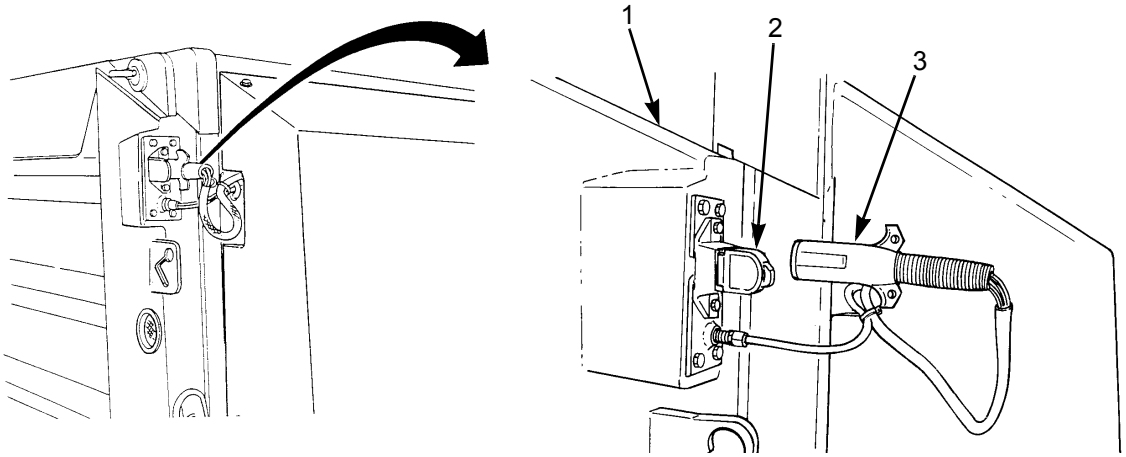
NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.

a. REMOVAL

NOTE

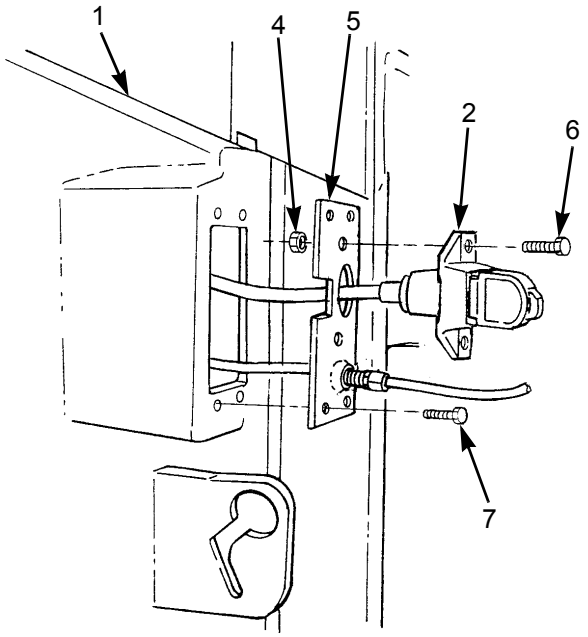
- **Wires should be tagged before disconnecting (paragraph 4-17).**
- **Note location of tie wraps and routing of wiring harness prior to removal to aid in installation.**

1. Disconnect MCS tailgate wiring harness connector (3) from truck-to-MCS tailgate wiring harness receptacle (2) at left dump body pillar (1).

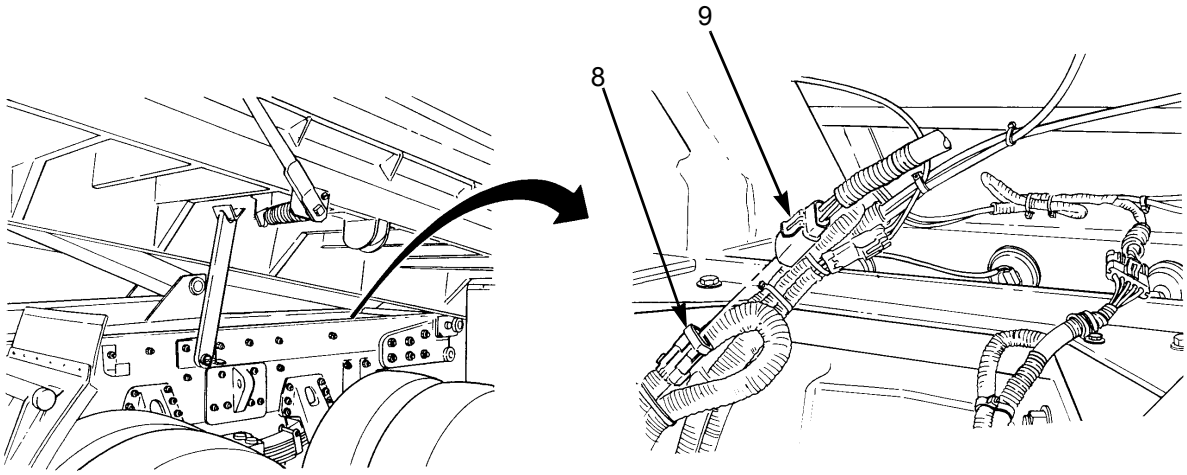


4-47. TRUCK-TO-MCS TAILGATE WIRING HARNESS MAINTENANCE (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

2. Remove four screws (7) and pull cover plate (5) away from dump body pillar (1).
3. Remove two self-locking nuts (4) and screws (6) securing truck-to-MCS tailgate wiring harness receptacle (2) to cover plate (5). Discard self-locking nuts.



4. Disconnect truck-to-MCS tailgate wiring harness (9) from chassis wiring harness (8).
5. Remove truck-to-MCS tailgate wiring harness (9).



4-47. TRUCK-TO-MCS TAILGATE WIRING HARNESS MAINTENANCE (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

b. REPAIR

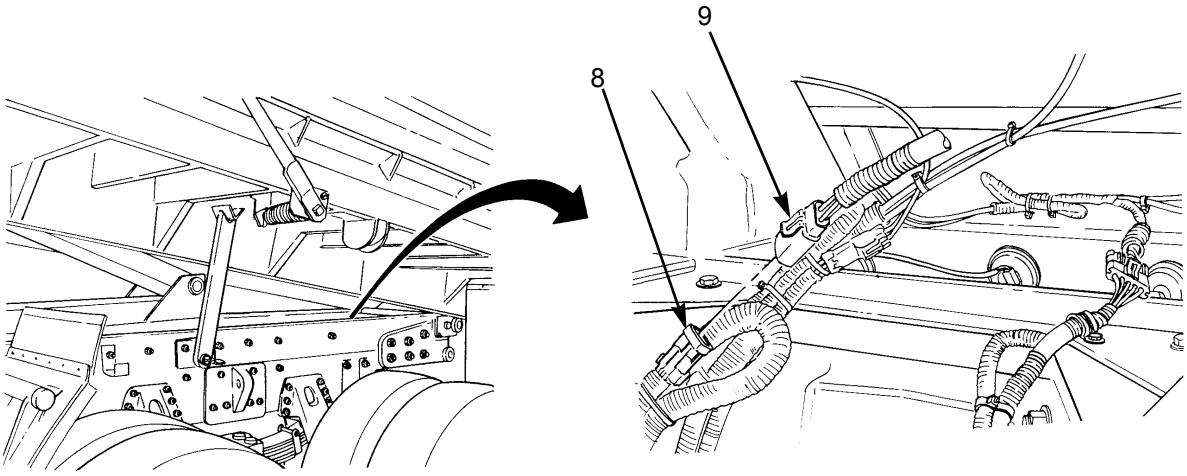
NOTE

Wiring harness need not be removed from vehicle to make repairs.

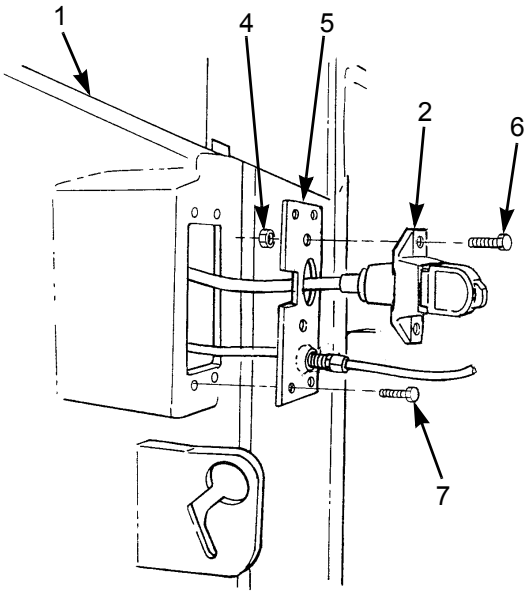
Repair wiring harness in accordance with instructions in Chapter 4, Section III, *General Maintenance Instructions*.

c. INSTALLATION

1. Position truck-to-MCS tailgate wiring harness (9) between points of connection.
2. Connect truck-to-MCS tailgate wiring harness (9) to chassis wiring harness (8).

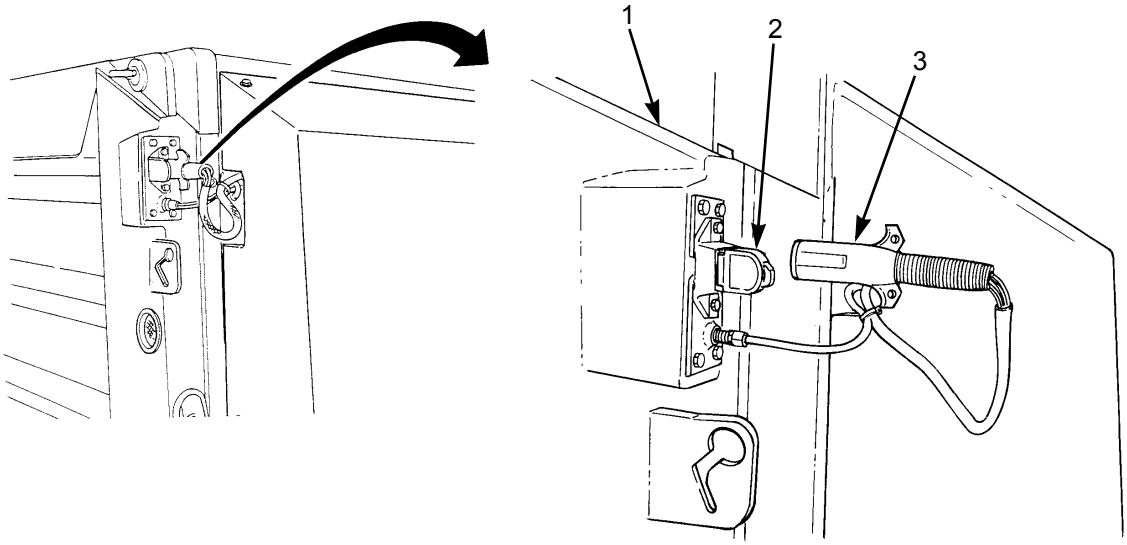


3. Position truck-to-MCS tailgate wiring harness receptacle (2) against cover plate (5). Secure with two screws (6) and new self-locking nuts (4).
4. Install cover plate (5) to dump body pillar (1) with four screws (7).



4-47. TRUCK-TO-MCS TAILGATE WIRING HARNESS MAINTENANCE (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

5. Connect MCS tailgate wiring harness connector (3) to truck-to-MCS tailgate wiring harness receptacle (2).



6. Install new tie wraps.

FOLLOW-ON TASKS:

- Connect batteries (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Remove body props and lower dump body (paragraph 2-15).
- Check operation of MCS tailgate using cab-mounted MCS control unit and remote control (paragraphs 2-1 and 2-2).

4-48. MCS TAILGATE WIRING HARNESS MAINTENANCE (M917A1 W/MCS AND M917A2 W/MCS).

This task covers:

a. Removal
b. Repair
c. Installation

Initial Setup:

Equipment Conditions:

- Batteries disconnected (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Master battery switch OFF (TM 9-2320-302-10) (M917A2 and M917A2 w/MCS)
- MCS tailgate cover removed (paragraph 4-53).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

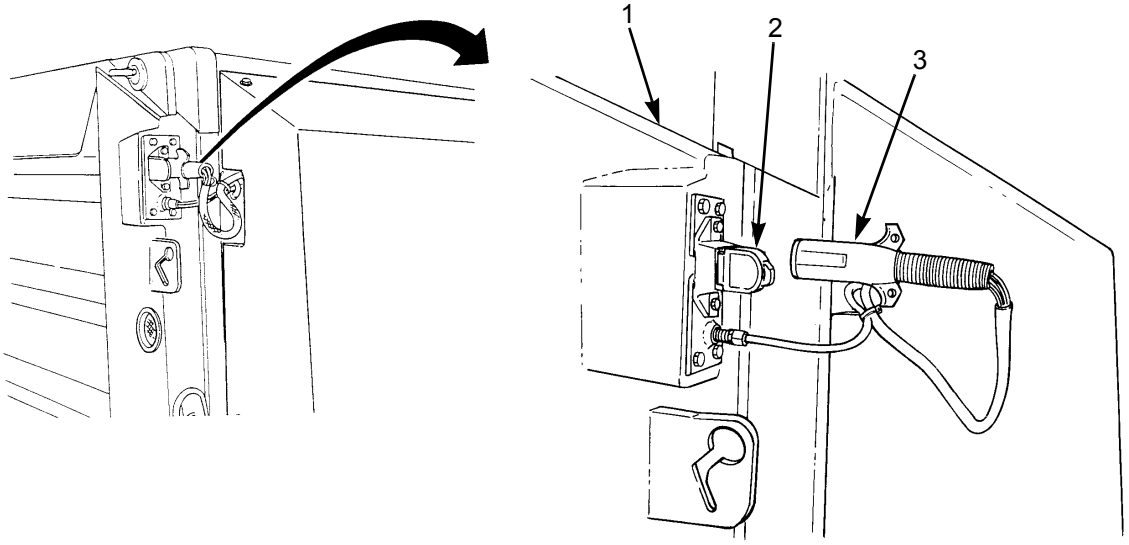
- Marker tags (Item 20, Appendix F)
- Four self-locking nuts
- Tie wraps (Item 19, Appendix F)

a. REMOVAL

NOTE

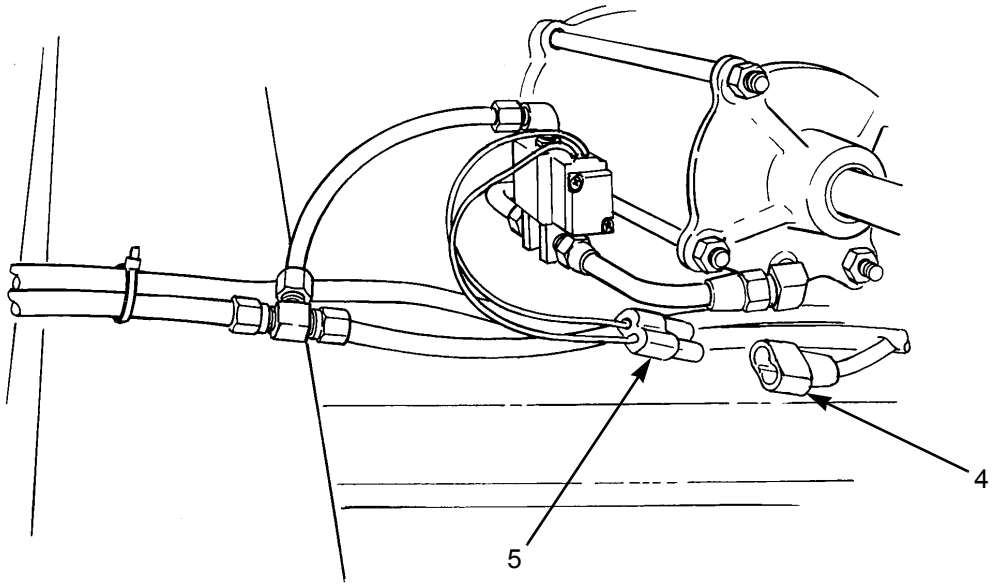
- **Wires should be tagged before disconnecting (paragraph 4-17).**
- **Note location of tie wraps and routing of wiring harness prior to removal to aid in installation.**

1. Disconnect wiring harness connector (3) from truck-to-MCS tailgate wiring harness receptacle (2) at left dump body pillar (1).



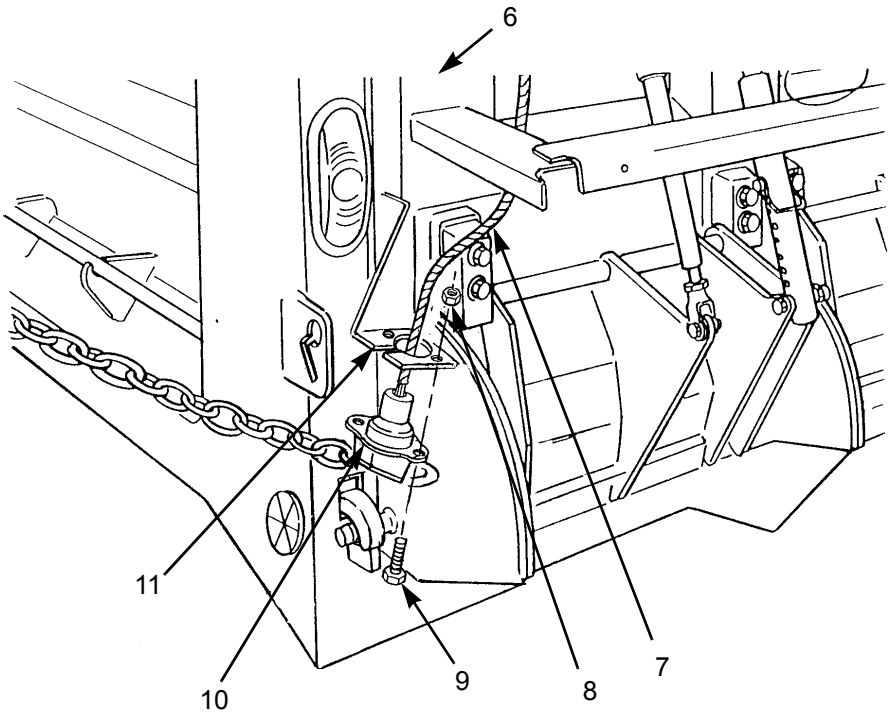
4-48. MCS TAILGATE WIRING HARNESS MAINTENANCE (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

2. Disconnect wiring harness connector (4) from each air cylinder solenoid connector (5).



3. On each side of MCS tailgate (6), remove two self-locking nuts (8) and screws (9) securing wiring harness receptacle (10) to tailgate weldment (11). Discard self-locking nuts.

4. Remove wiring harness (7) from MCS tailgate (6).



4-48. MCS TAILGATE WIRING HARNESS MAINTENANCE (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

b. REPAIR

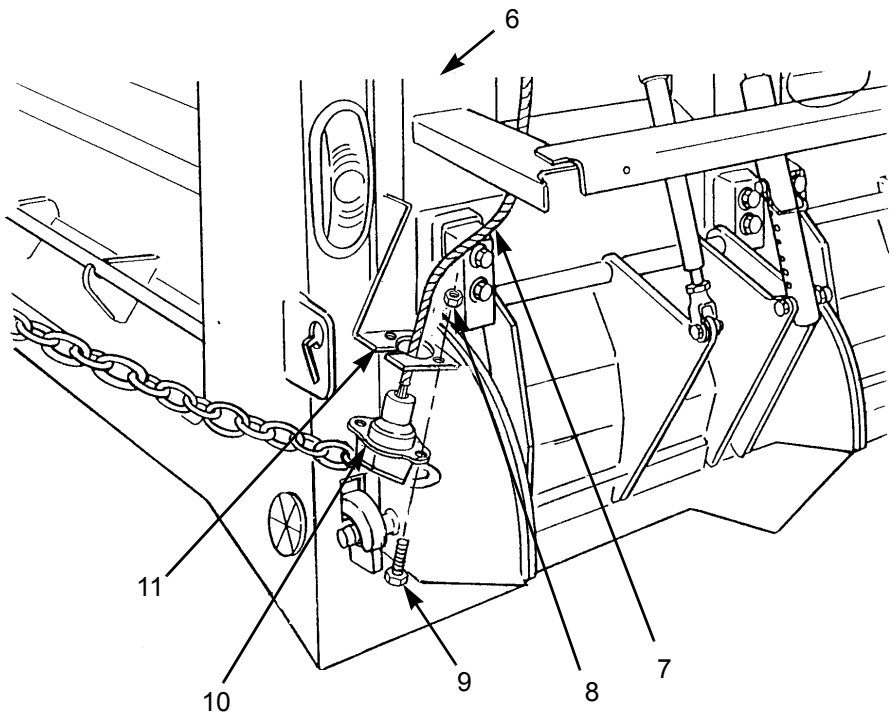
NOTE

Wiring harness need not be removed from vehicle to make repairs.

Repair wiring harness in accordance with instructions in Chapter 4, Section III, *General Maintenance Instructions*.

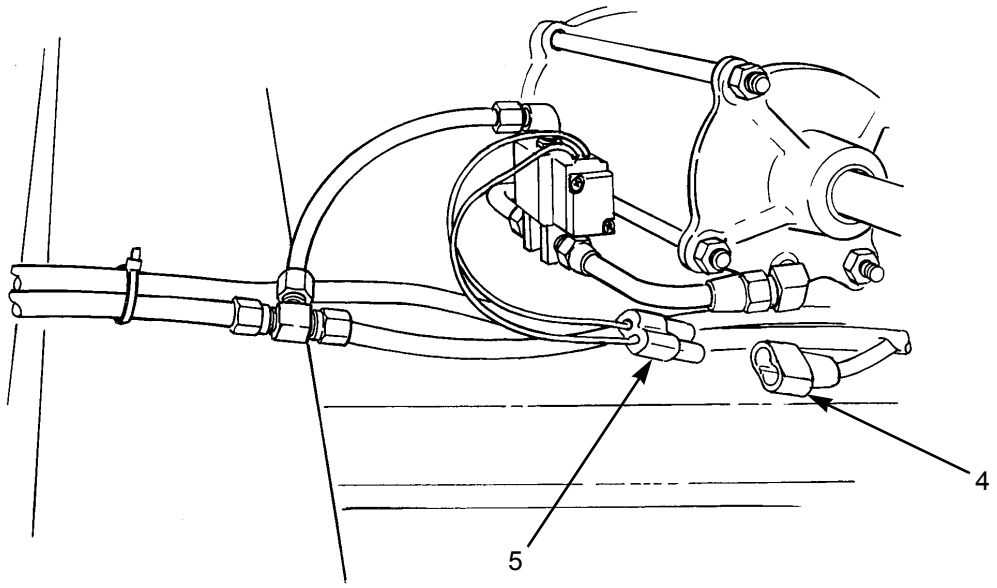
c. INSTALLATION

1. Position wiring harness (7) on MCS tailgate (6) between points of connection.
2. On each side of MCS tailgate (6), position wiring harness receptacle (10) on tailgate weldment (11) and secure with two screws (9) and new self-locking nuts (8).

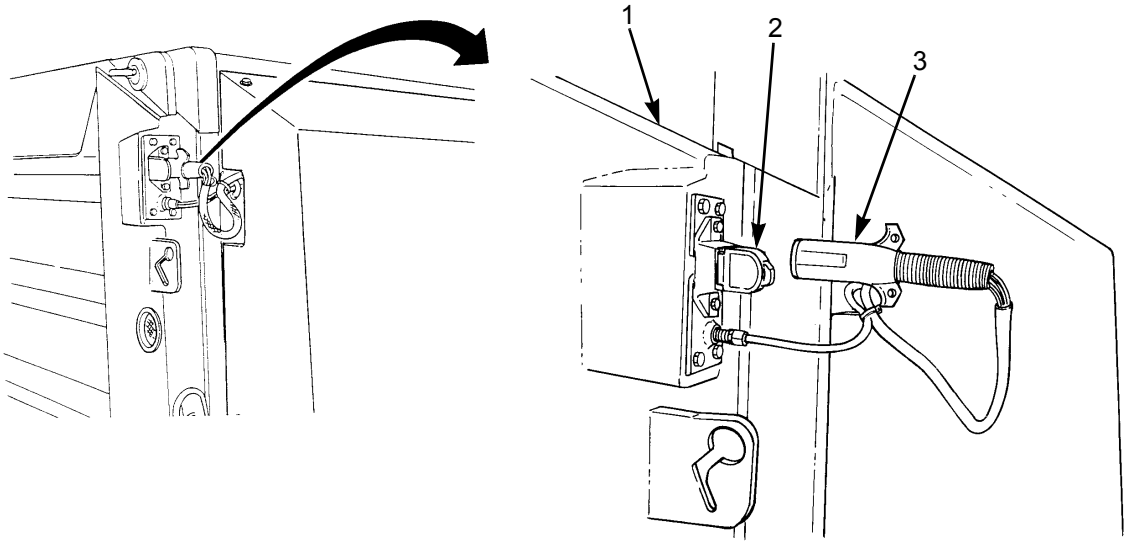


4-48. MCS TAILGATE WIRING HARNESS MAINTENANCE (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

3. Connect wiring harness connector (4) to each air cylinder solenoid connector (5).



4. Connect wiring harness connector (3) to truck-to-MCS tailgate wiring harness receptacle (2) at left dump body pillar (1).

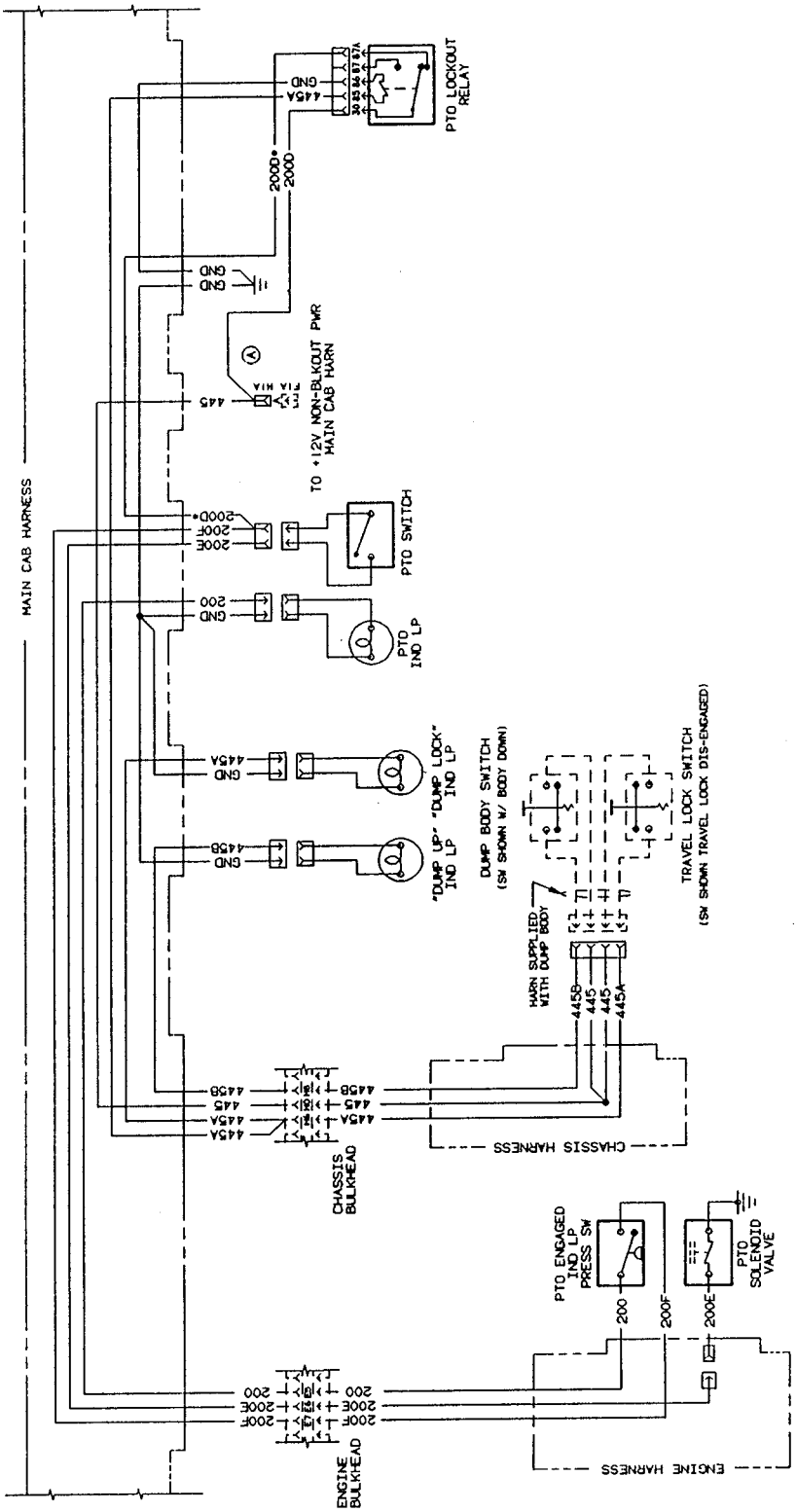


5. Install new tie wraps.

FOLLOW-ON TASKS:

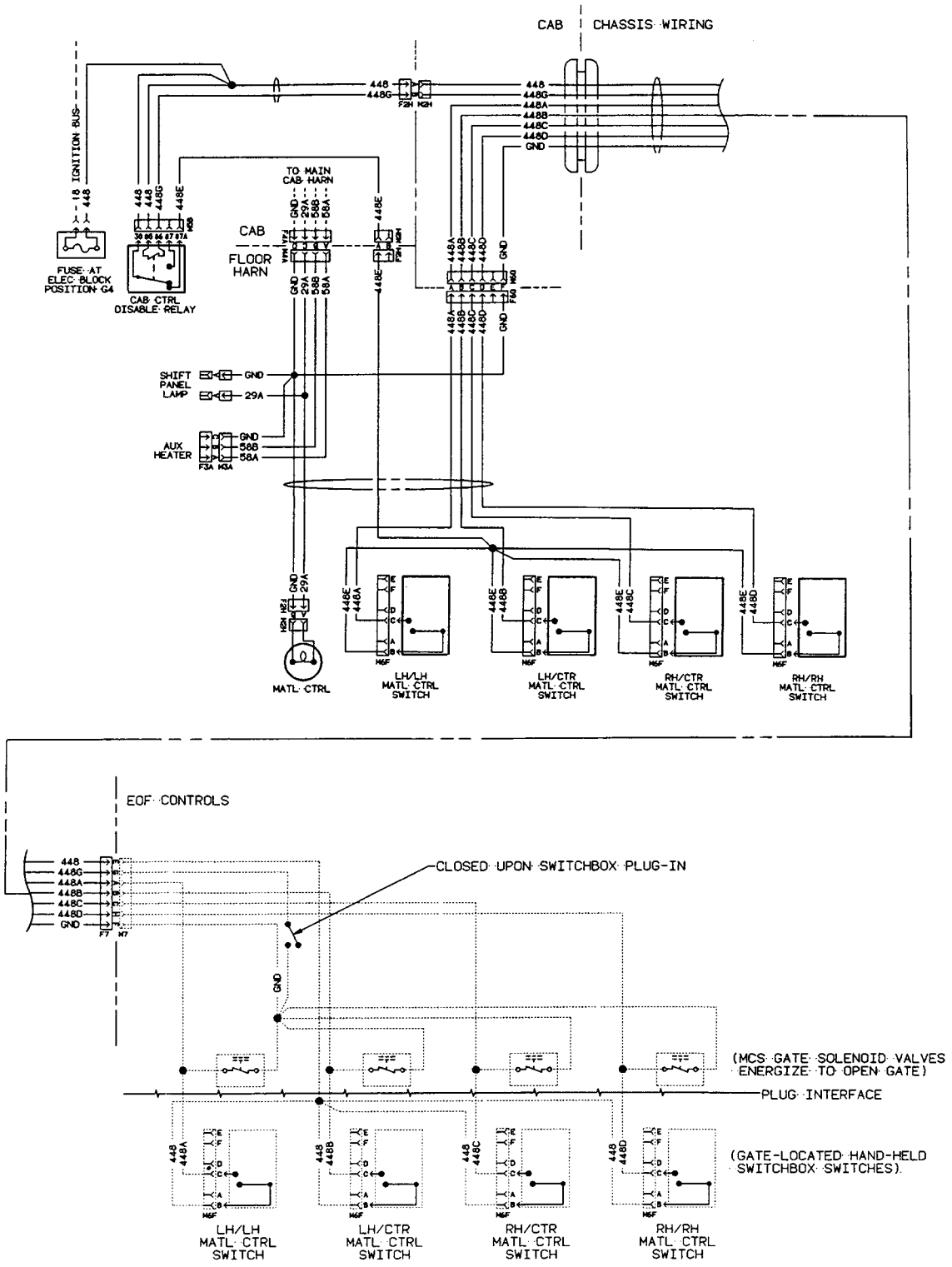
- Connect batteries (TM 9-2320-363-20) (M917A1 and M917A1 w/MCS).
- Start vehicle and pressurize air system (TM 9-2320-363-10 or TM 9-2320-302-10).
- Check operation of MCS tailgate using cab-mounted MCS control unit and remote control (paragraphs 2-1 and 2-2).
- Install MCS tailgate cover (paragraph 4-53).

4-49. WIRING DIAGRAMS.



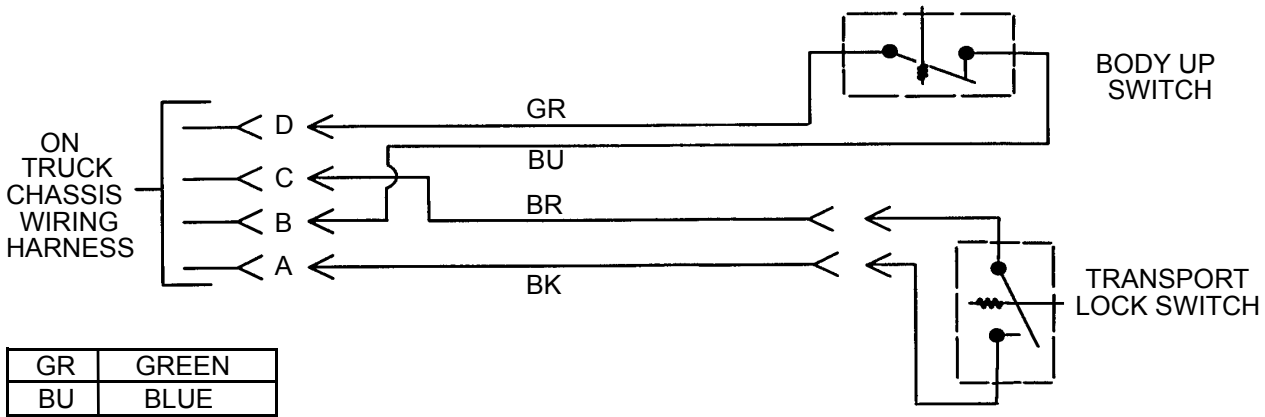
PTO LOCKOUT

4-49. WIRING DIAGRAMS (Con't).



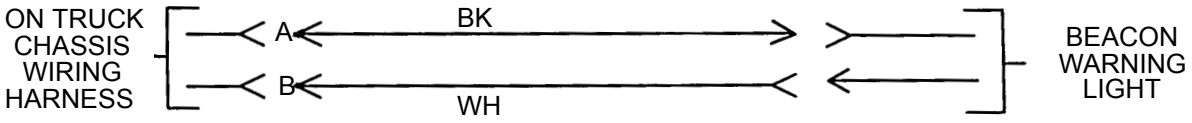
MCS (M917A1 W/MCS AND M917A2 W/MCS)

4-49. WIRING DIAGRAMS (Con't).



GR	GREEN
BU	BLUE
BR	BROWN
BL	BLACK

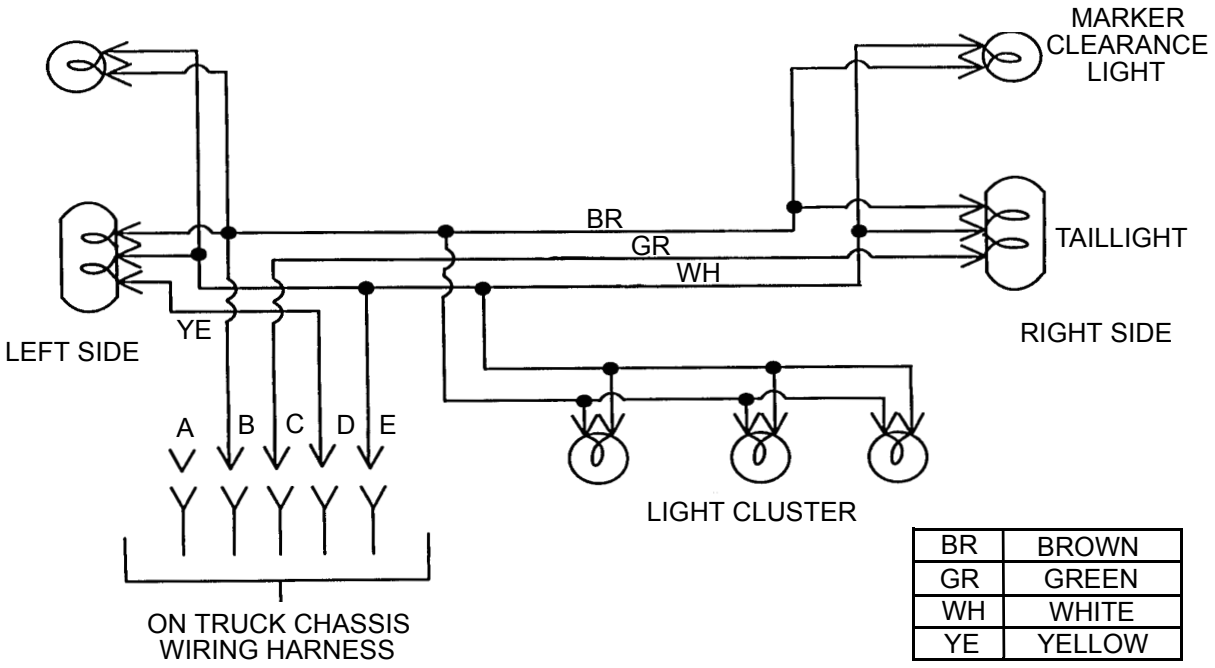
BODY UP AND TRANSPORT LOCK SWITCHES



BK	BLACK
WH	WHITE

BEACON WARNING LIGHT

4-49. WIRING DIAGRAMS (Con't).



DUMP BODY TAILLIGHTS AND MARKER CLEARANCE LIGHTS

Section VII. DUMP BODY MAINTENANCE

Paragraph Number	Paragraph Title	Page Number
4-50.	Tailgate Replacement (M917A1 and M917A2)	4-66
4-51.	Tailgate Release Air Cylinder Replacement	4-68
4-52.	MCS Tailgate Replacement (M917A1 w/MCS and M917A2 w/MCS)	4-70
4-53.	MCS Tailgate Cover Replacement (M917A1 w/MCS and M917A2 w/MCS)	4-73
4-54.	MCS Gate Replacement (M917A1 w/MCS and M917A2 w/MCS)	4-75
4-55.	MCS Air Reservoir Replacement (M917A1 w/MCS and M917A2 w/MCS)	4-77
4-56.	MCS Air Cylinder Replacement (M917A1 w/MCS and M917A2 w/MCS)	4-79
4-57.	MCS Air Cylinder Solenoid Assembly Maintenance (M917A1 w/MCS and M917A2 w/MCS)	4-82
4-58.	Tailgate Release/MCS Air Cylinder Repair	4-87
4-59.	Tailgate Release/MCS Air Lines and Fittings Replacement	4-91
4-60.	MCS Adjustment Tube Replacement (M917A1 w/MCS and M917A2 w/MCS)	4-93
4-61.	Body Prop Replacement	4-95
4-62.	Cab Shield Replacement	4-96
4-63.	Mud Flap Replacement	4-99

4-50. TAILGATE REPLACEMENT (M917A1 AND M917A2).

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Tailgate release control valve lever in UNLOCKED position (paragraph 2-1).
- Tailgate chains released (paragraph 2-11).

General Safety Instructions:

- Use extreme caution when handling heavy parts.

Personnel Required: Two

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)
- Lifting slings (three) (Item 6, Appendix I)
- Suitable lifting device

a. REMOVAL

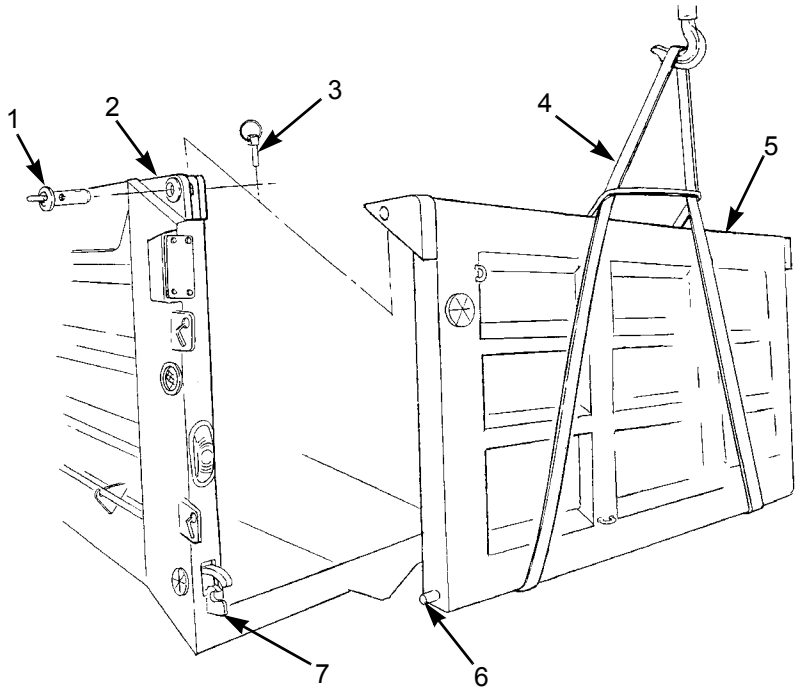
WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

1. Attach lifting slings (4) to tailgate (5) and remove slack from lifting slings.
2. Remove lynch pins (3) and hinge pins (1) from each side of tailgate (5).

4-50. TAILGATE REPLACEMENT (M917A1 AND M917A2) (Con't).

3. Lift tailgate (5) from dump body (2) and place tailgate in a safe work area.



b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

c. INSTALLATION

WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

1. Raise tailgate (5) to dump body (2).
2. Position tailgate (5) so that bottom pins (6) are resting on dump body stops (7) and tailgate hinge pin holes are alined with dump body hinge pin holes.
3. Install hinge pins (1) and lynch pins (3) to each side of tailgate (5).
4. Remove lifting slings (4) from tailgate (5).

FOLLOW-ON TASKS:

- Lubricate tailgate hinge pins (Chapter 3, Section I).
- Start engine and pressurize air systems (TM 9-2320-363-10 or TM 9-2320-302-10).
- Set tailgate release control valve lever to LOCKED position (paragraph 2-1).
- Latch tailgate chains (paragraph 2-11).

4-51. TAILGATE RELEASE AIR CYLINDER REPLACEMENT.

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Tailgate release control valve lever in UNLOCKED position (paragraph 2-1).
- Dump body raised and supported on body props (paragraph 2-15).
- Chassis air system drained (TM 9-2320-363-10 or TM 9-2320-302-10).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Marker tags (Item 20, Appendix F)
- Two cotter pins

Personnel Required: Two

General Safety Instructions:

- NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY.
- DO NOT disconnect air lines while air system is pressurized.

WARNING

- **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.**
- **DO NOT disconnect air lines while air system is pressurized. Air system pressure must be released before air lines are disconnected. A line disconnected under pressure may cause personnel injury.**

a. REMOVAL

NOTE

Hoses should be tagged before removal (paragraph 4-17).

1. Disconnect two air lines (4) from two elbows (3) and remove elbows from air cylinder (5).

NOTE

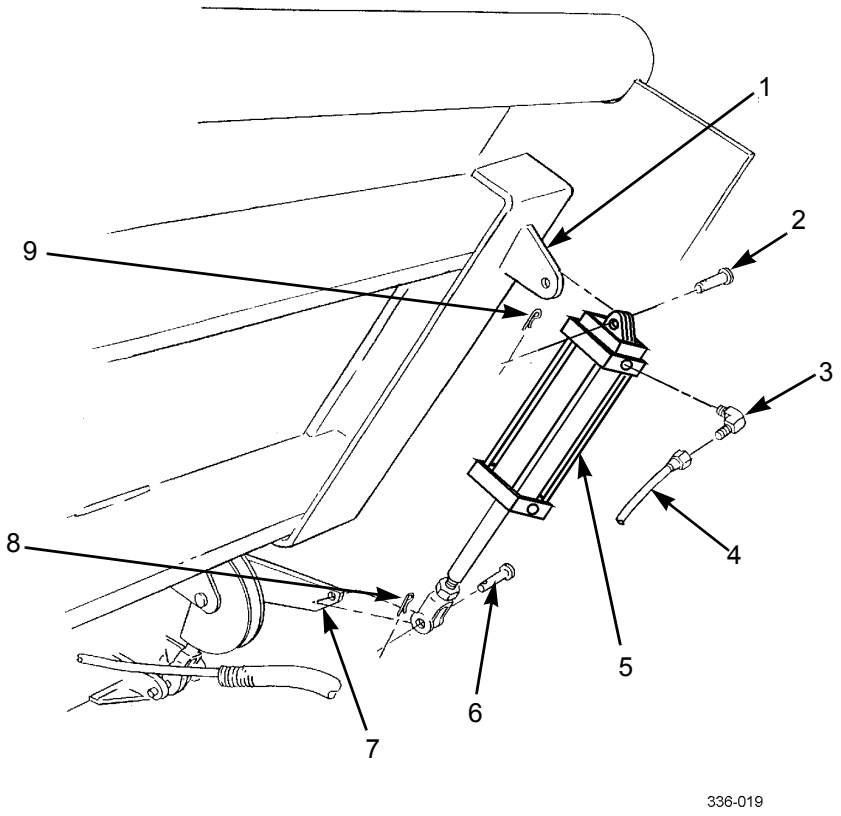
Note position of nut at air cylinder piston shaft clevis to ensure proper adjustment of air cylinder on installation.

2. Remove cotter pin (8) and pin (6) to remove air cylinder (5) from tailgate release lever (7). Discard cotter pin.
3. Remove cotter pin (9) and pin (2) to remove air cylinder (5) from dump body (1). Discard cotter pin.

b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions.*

4-51. TAILGATE RELEASE AIR CYLINDER REPLACEMENT (Con't).



c. INSTALLATION

1. Install air cylinder (5) to dump body (1) with pin (2) and new cotter pin (9).

NOTE

Ensure that position of nut at air cylinder piston shaft clevis is the same as noted during removal, to ensure proper adjustment of air cylinder on installation.

2. Install air cylinder (5) to tailgate release lever (7) with pin (6) and new cotter pin (8).
3. Install two elbows (3) to air cylinder (5). Connect two air lines (4) to elbows.

FOLLOW-ON TASKS:

- Start engine and pressurize air system (TM 9-2320-363-10 or TM 9-2320-302-10).
- Remove body props and lower dump body (paragraph 2-15).
- Set tailgate release control valve lever to LOCKED position (paragraph 2-1).

4-52. MCS TAILGATE REPLACEMENT (M917A1 W/MCS AND M917A2 W/MCS).

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- MCS remote control disconnected (paragraph 2-2).
- Tailgate release control valve lever in UNLOCKED position (paragraph 2-1).
- Chassis air system drained (TM 9-2320-363-10 or TM 9-2320-302-10).
- MCS air system drained (Chapter 2, Section II, *Operator PMCS*).
- Tailgate chains released (paragraph 2-11).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)
- Lifting slings (three) (Item 6, Appendix I)
- Suitable lifting device

Personnel Required: Two

General Safety Instructions:

- DO NOT disconnect air lines while air system is pressurized.
- Use extreme caution when handling heavy parts.

a. REMOVAL

1. Disconnect MCS tailgate wiring harness connector (3) from receptacle (10).

WARNING

DO NOT disconnect air lines while air system is pressurized. Air system pressure must be released before air lines are disconnected. A line disconnected under pressure may cause personnel injury.

2. Disconnect MCS quick-disconnect air line (9).

WARNING

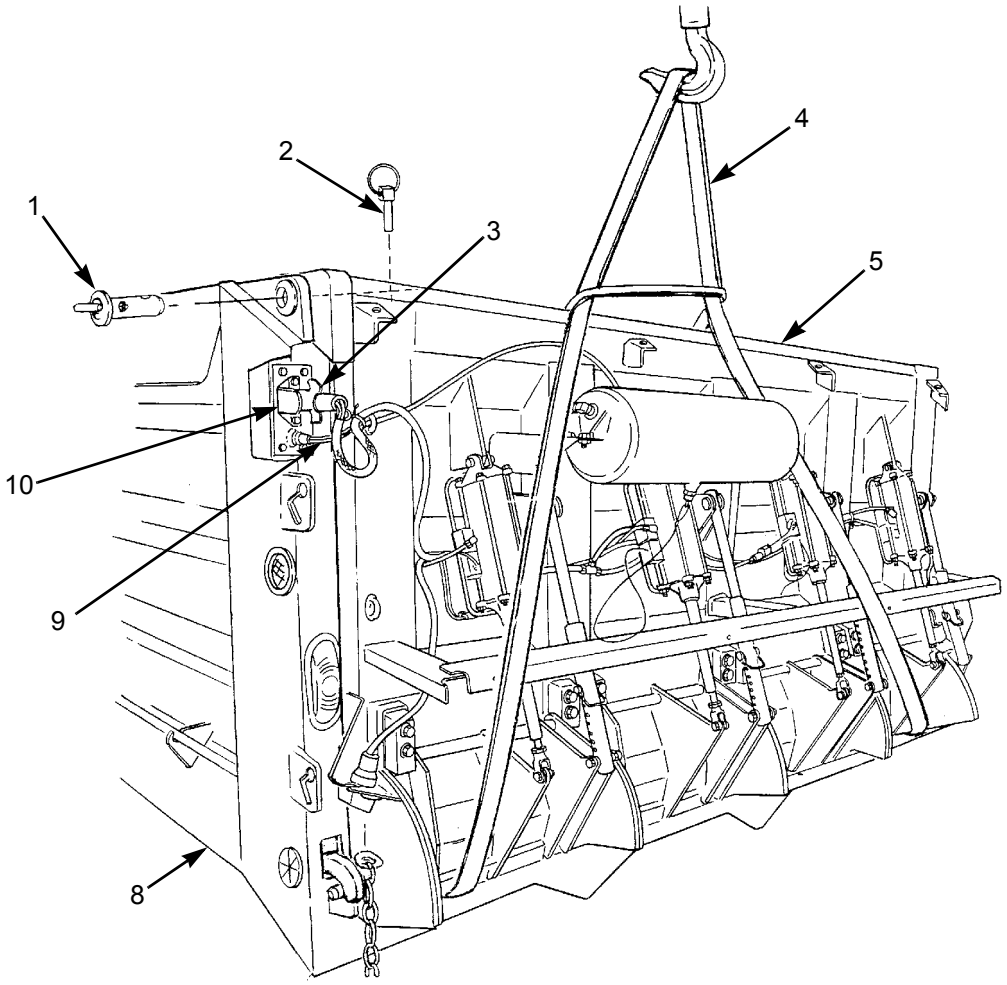
Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

3. Attach lifting slings (4) to MCS tailgate (5) and remove slack from lifting slings.
4. Remove lynch pins (2) and hinge pins (1) from each side of MCS tailgate (5).
5. Lift MCS tailgate (5) from dump body (8) and place tailgate in a safe work area.

b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

4-52. MCS TAILGATE REPLACEMENT (M917A1 W/MCS AND M917A2 W/MCS) (Con't).



c. INSTALLATION

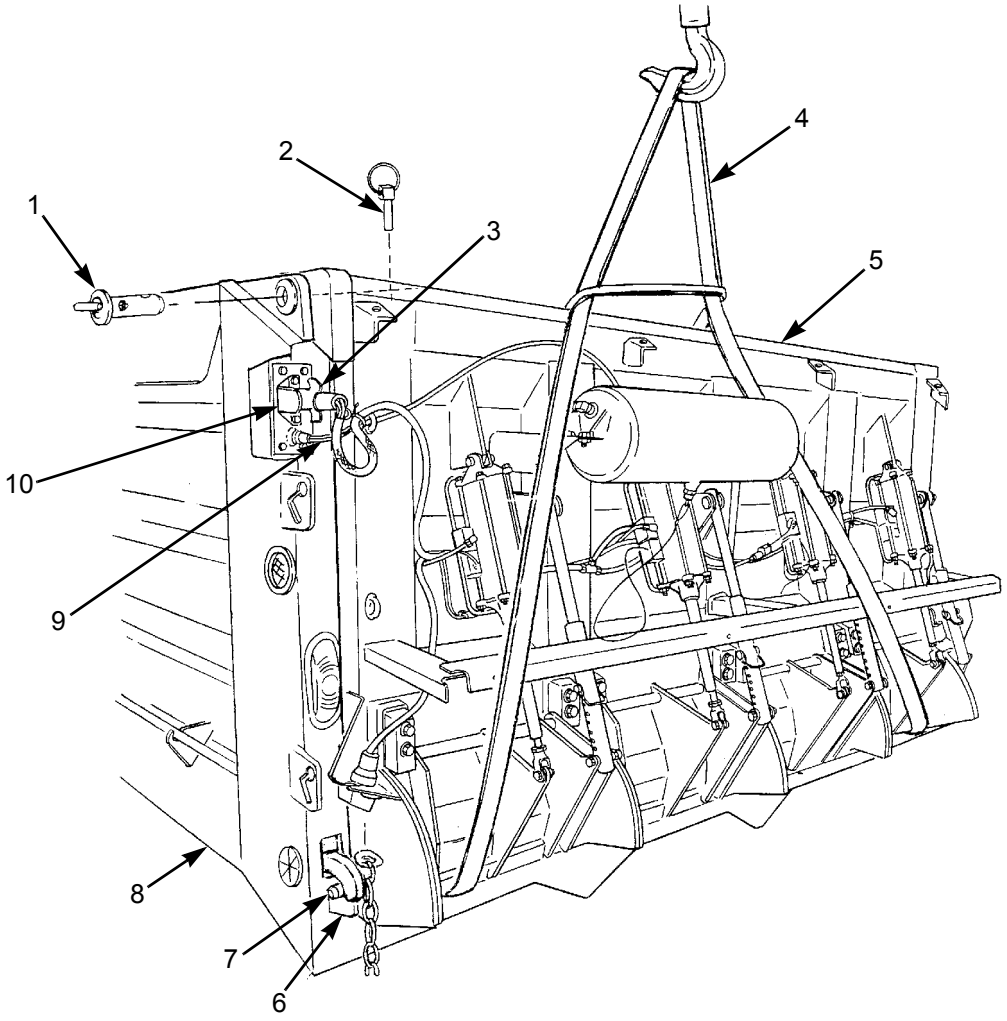
WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

1. Raise MCS tailgate (5) to dump body (8).

4-52. MCS TAILGATE REPLACEMENT (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

2. Position MCS tailgate (5) so that bottom pins (7) are resting on dump body stops (6) and tailgate hinge pin holes are alined with dump body hinge pin holes.
3. Install hinge pins (1) and lynch pins (2) to each side of MCS tailgate (5).
4. Remove lifting slings (4) from MCS tailgate (5).
5. Connect MCS quick-disconnect air line (9).
6. Connect MCS tailgate wiring harness connector (3) to receptacle (10).



FOLLOW-ON TASKS:

- Lubricate tailgate hinge pins (Chapter 3, Section I).
- Start engine and pressurize air systems (TM 9-2320-363-10 or TM 9-2320-302-10).
- Set tailgate release control valve lever to LOCKED position (paragraph 2-1).
- Check operation of MCS gates using cab-mounted control unit (paragraph 2-1).
- Check operation of MCS gates using MCS remote control (paragraph 2-2).
- Latch tailgate chains (paragraph 2-11).

4-53. MCS TAILGATE COVER REPLACEMENT (M917A1 W/MCS AND M917A2 W/MCS).

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- One self-locking nut

Personnel Required: Two

General Safety Instructions:

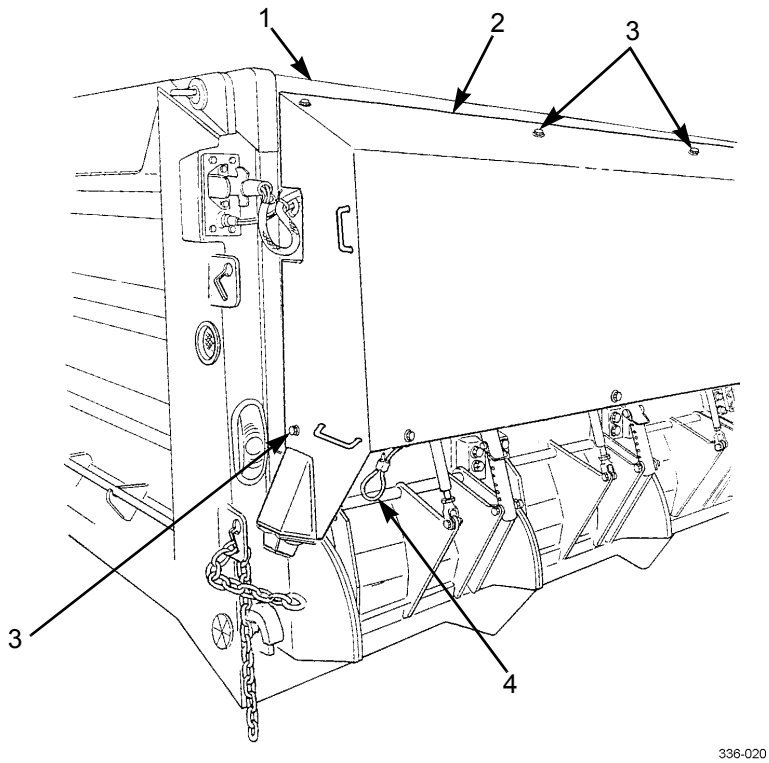
- Use extreme caution when handling heavy parts.

WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

a. REMOVAL

1. Remove self-locking nut, screw, clamp, and release air reservoir draincock lanyard (4) from MCS tailgate cover (2). Discard self-locking nut.
2. Remove ten self-tapping screws (3) and MCS tailgate cover (2) from MCS tailgate (1).



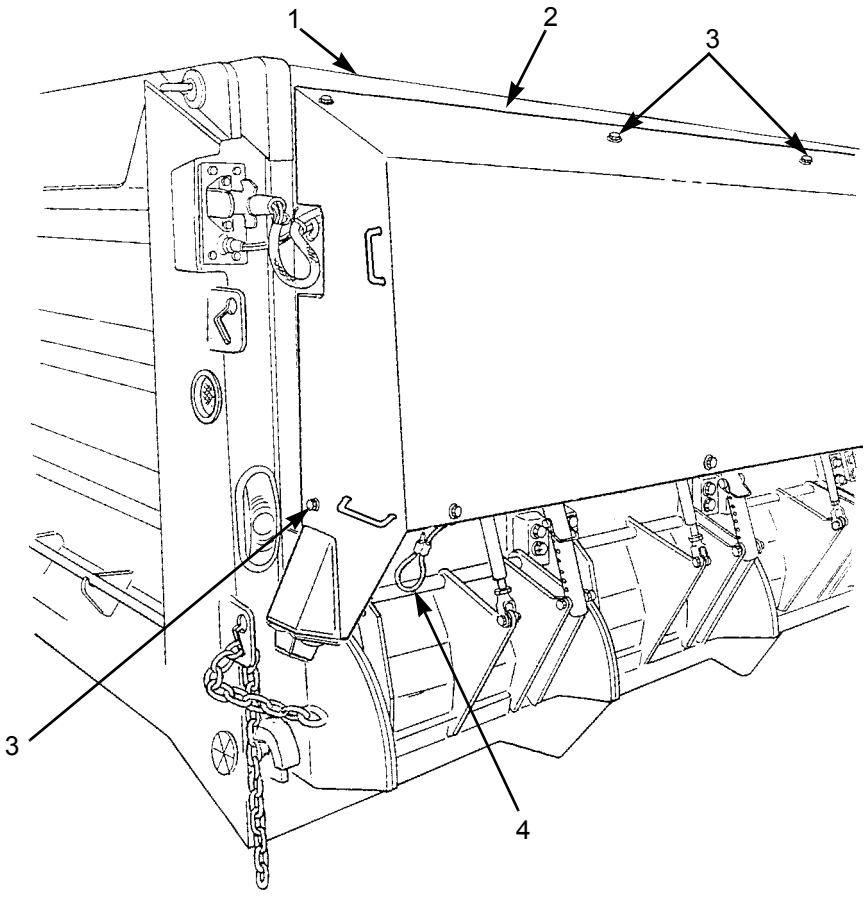
4-53. MCS TAILGATE COVER REPLACEMENT (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

c. INSTALLATION

1. Aline screw holes on MCS tailgate cover (2) with screw holes on MCS tailgate (1).
2. Install and tighten ten self-tapping screws (3).
3. Secure air reservoir draincock lanyard (4) to MCS tailgate cover (2) with clamp, screw, and new self-locking nut.



336-020

4-54. MCS GATE REPLACEMENT (M917A1 W/MCS AND M917A2 W/MCS).

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- MCS adjustment tube removed (paragraph 4-60).
- MCS air cylinder removed (paragraph 4-56).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

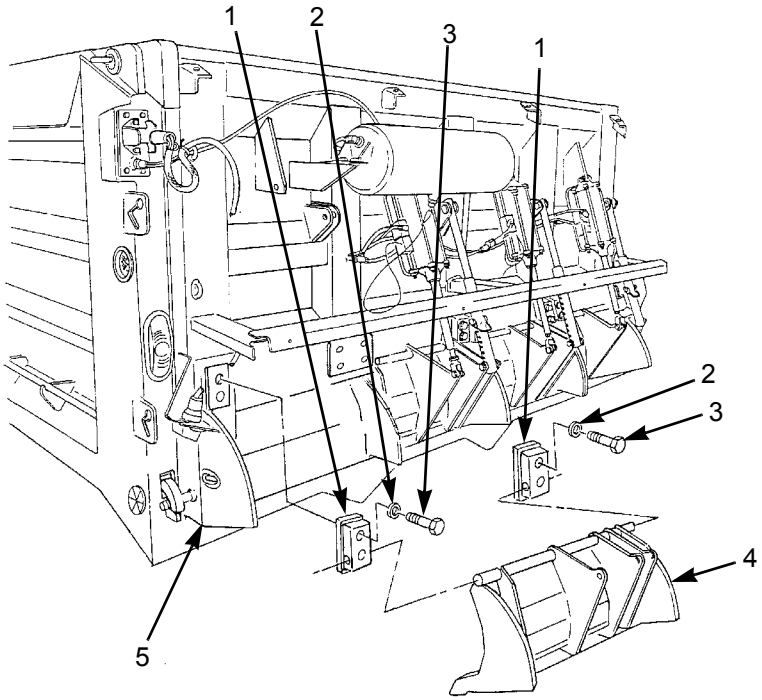
Materials/Parts:

- Four lockwashers

Personnel Required: Two

a. REMOVAL

1. Remove four screws (3), lockwashers (2), MCS gate (4), and two brackets (1) from tailgate (5). Discard lockwashers.
2. Remove two brackets (1) from MCS gate (4).



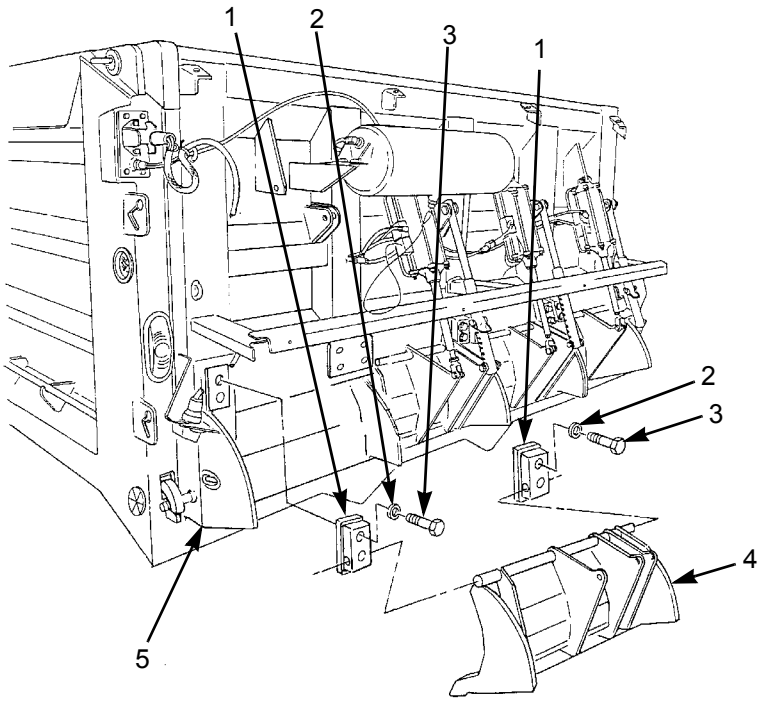
b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

4-54. MCS GATE REPLACEMENT (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

c. INSTALLATION

1. Position two brackets (1) on MCS gate (4).
2. Install two brackets (1) and MCS gate (4) to tailgate (5) with four new lockwashers (2) and screws (3).



FOLLOW-ON TASKS:

- Install MCS adjustment tube (paragraph 4-60).
- Install MCS air cylinder (paragraph 4-56).

4-55. MCS AIR RESERVOIR REPLACEMENT (M917A1 W/MCS AND M917A2 W/MCS).

This task covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Chassis air system drained (TM 9-2320-363-10 or TM 9-2320-302-10).
- MCS air system drained (Chapter 2, Section II, *Operator PMCS*).
- MCS tailgate cover removed (paragraph 4-53).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Marker tags (Item 20, Appendix F)
- Four locknuts

Personnel Required: Two

General Safety Instructions:

- DO NOT disconnect air lines while air system is pressurized.

a. REMOVAL

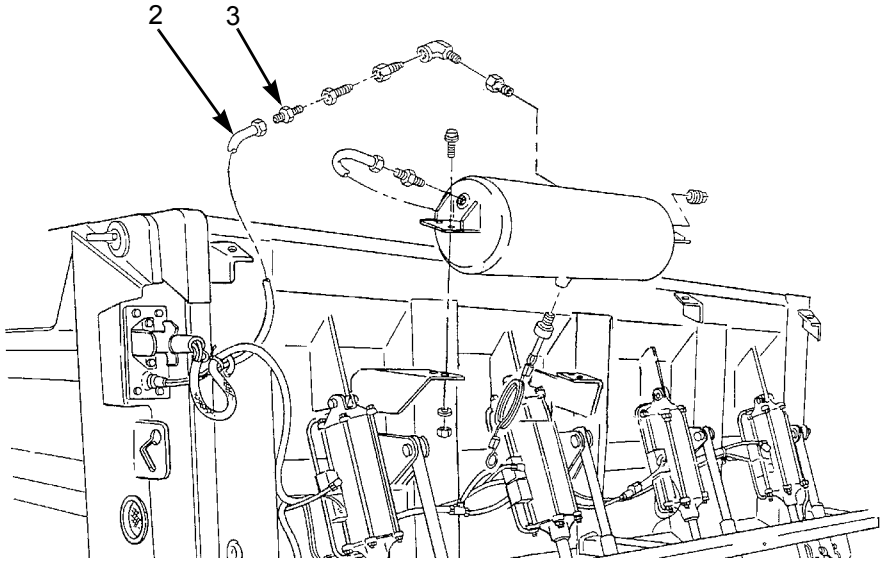
WARNING

DO NOT disconnect air lines while air system is pressurized. Air system pressure must be released before air lines are disconnected. A line disconnected under pressure may cause personnel injury.

NOTE

Hoses should be tagged before removal (paragraph 4-17).

1. Disconnect air supply hose (2) from adapter (3).

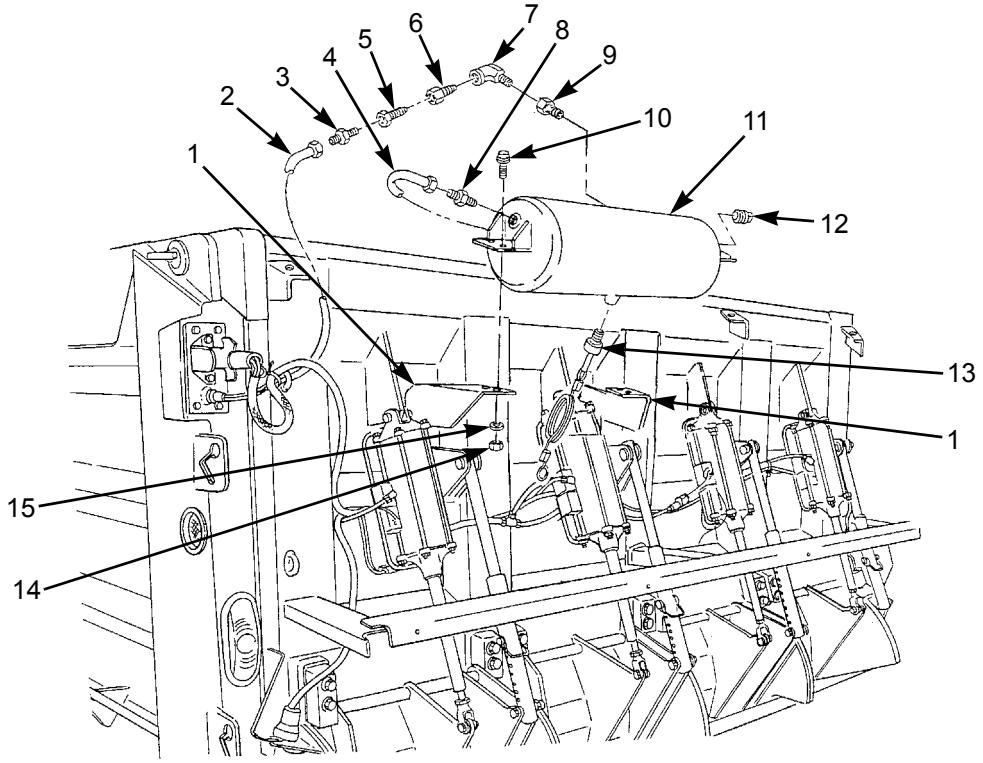


4-55. MCS AIR RESERVOIR REPLACEMENT (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

2. Disconnect air hose (4) from adapter (8).
3. Remove four locknuts (14), flatwashers (15), screws (10), and air reservoir (11) from welded brackets (1). Discard locknuts.
4. Remove adapter (3), bushing (5), check valve (6), elbow (7), and reducer (9) from air reservoir (11).
5. Remove adapter (8) from air reservoir (11).
6. Remove draincock with lanyard (13) and plug (12) from air reservoir (11).

b. INSTALLATION

1. Install draincock with lanyard (13) and plug (12) to air reservoir (11).
2. Install adapter (8) to air reservoir (11).
3. Install reducer (9), elbow (7), check valve (6), bushing (5), and adapter (3) to air reservoir (11).
4. Install air reservoir (11) to welded brackets (1) with four screws (10), flatwashers (15), and new locknuts (14).
5. Connect air hose (4) to adapter (8).
6. Connect air supply hose (2) to adapter (3).



FOLLOW-ON TASKS:

- Start engine and pressurize air systems (TM 9-2320-363-10 or TM 9-2320-302-10).
- Check for leaks.
- Check operation of MCS tailgate (paragraph 2-13).
- Install MCS tailgate cover (paragraph 4-53).

4-56. MCS AIR CYLINDER REPLACEMENT (M917A1 W/MCS AND M917A2 W/MCS).

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Chassis air system drained (TM 9-2320-363-10 or TM 9-2320-302-10).
- MCS air system drained (Chapter 2, Section II, *Operator PMCS*).
- MCS tailgate cover removed (paragraph 4-53).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Tie wraps (Item 19, Appendix F)

Personnel Required: Two

General Safety Instructions:

- DO NOT disconnect air lines while air system is pressurized.

a. REMOVAL

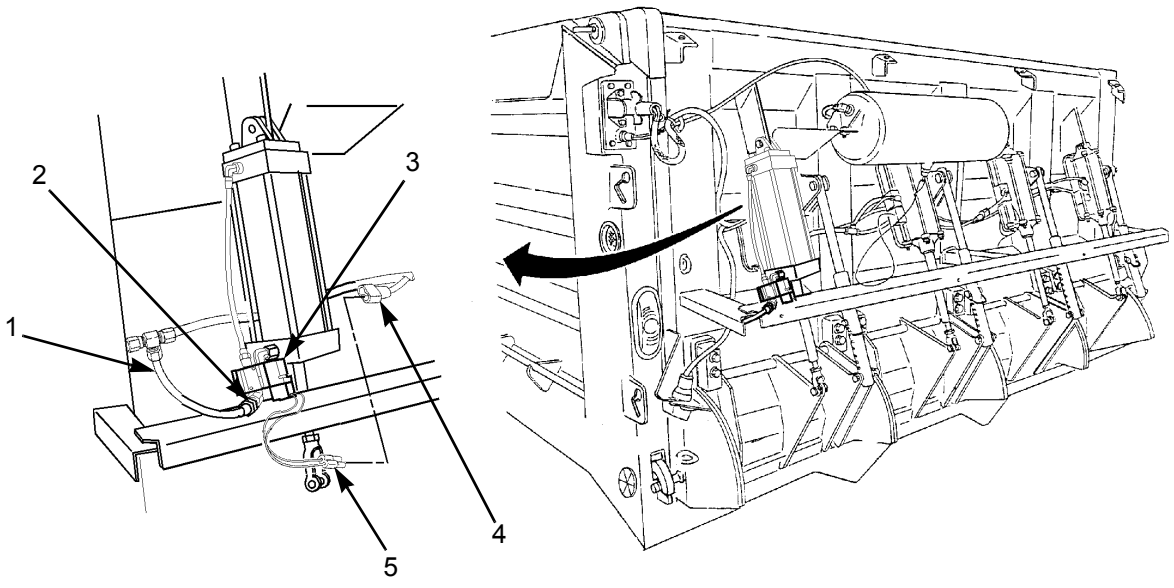
WARNING

DO NOT disconnect air lines while air system is pressurized. Air system pressure must be released before air lines are disconnected. A line disconnected under pressure may cause personnel injury.

NOTE

Note location of tie wraps prior to removal to aid in installation.

1. Disconnect solenoid connector (5) from MCS tailgate wiring harness connector (4).
2. Disconnect air line (1) from elbow (2). If damaged, remove elbow from air cylinder solenoid (3).



336-021

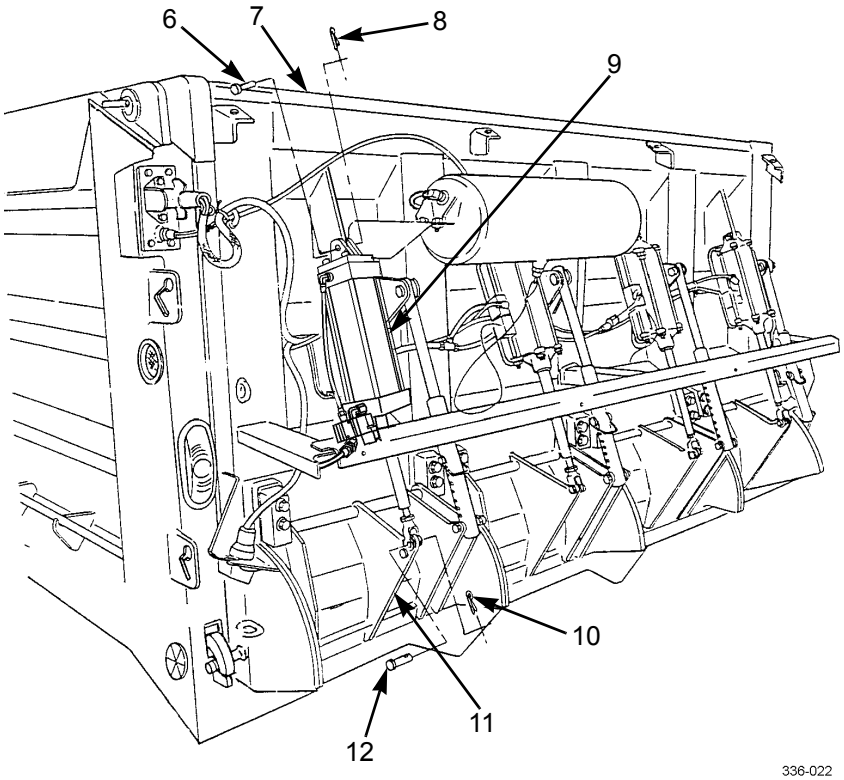
4-56. MCS AIR CYLINDER REPLACEMENT (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

3. Remove retaining pin (10) and pin (12) to disconnect air cylinder (9) from MCS gate (11).

NOTE

Note position of nut at air cylinder piston shaft clevis to ensure proper adjustment of air cylinder on installation.

4. Remove retaining pin (8) and pin (6) to disconnect air cylinder (9) from MCS tailgate (7).



b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

c. INSTALLATION

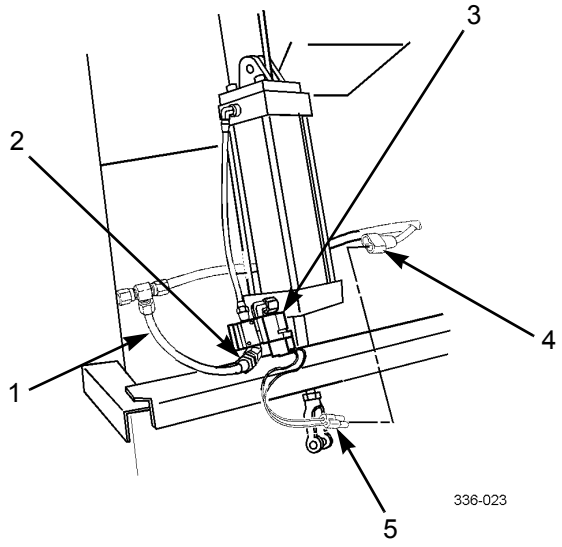
NOTE

Ensure that position of nut at air cylinder piston shaft clevis is the same as noted during removal, to ensure proper adjustment of air cylinder on installation.

1. Install air cylinder (9) to MCS tailgate (7) with pin (6) and new retaining pin (8).
2. Install air cylinder (9) to MCS gate (11) with pin (12) and new retaining pin (10).

4-56. MCS AIR CYLINDER REPLACEMENT (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

3. If removed, install elbow (2) to air cylinder solenoid (3). Connect air line (1) to elbow.
4. Connect solenoid connector (5) to MCS tailgate wiring harness connector (4).



5. Install new tie wraps as required.

FOLLOW-ON TASKS:

- Start engine and pressurize air systems (TM 9-2320-363-10 or TM 9-2320-302-10).
- Check for leaks.
- Check operation of MCS tailgate (paragraph 2-13).
- Install MCS tailgate cover (paragraph 4-53).

4-57. MCS AIR CYLINDER SOLENOID ASSEMBLY MAINTENANCE (M917A1 W/MCS AND M917A2 W/MCS).

This task covers:

a. Removal
b. Disassembly
c. Cleaning and Inspection
d. Assembly
e. Installation

Initial Setup:

Equipment Conditions:

- MCS air cylinder removed (paragraph 4-56).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

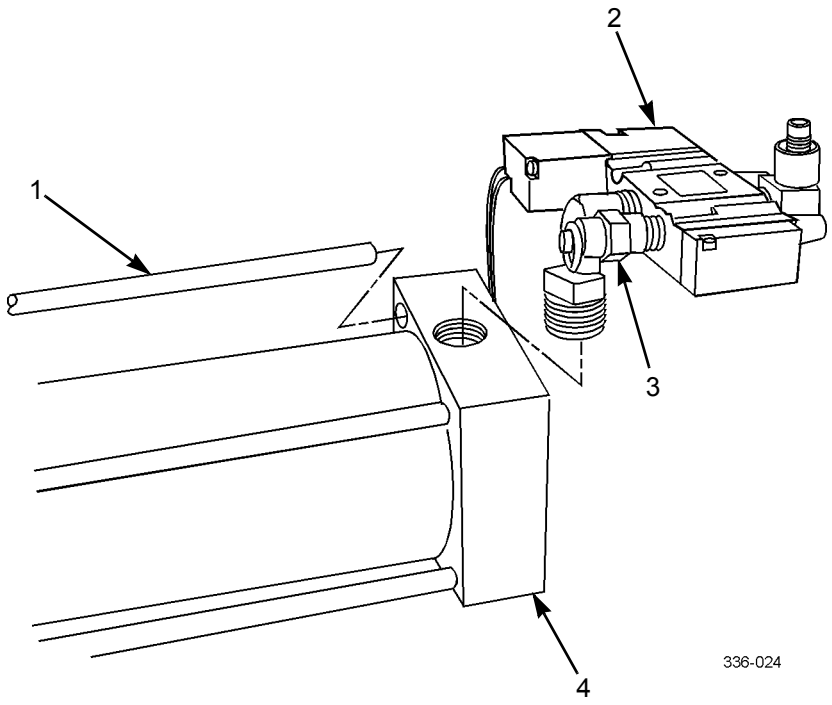
- Pipe sealing compound (Item 7, Appendix F)
- Ball bearing grease (Item 12, Appendix F)
- One solenoid repair kit

a. REMOVAL

NOTE

Note position of elbows, tubes, and solenoid assembly to aid in installation.

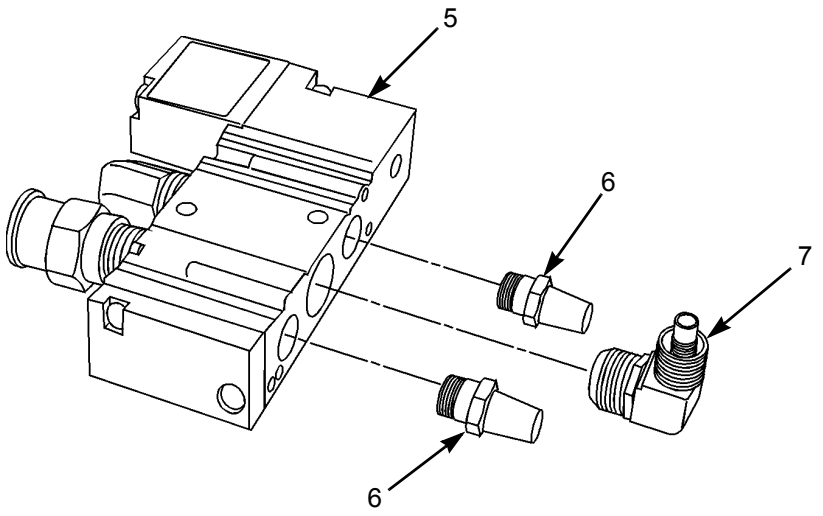
1. Disconnect tube (1) from fitting (3) on solenoid assembly (2).
2. Remove solenoid assembly (2) from air cylinder (4).



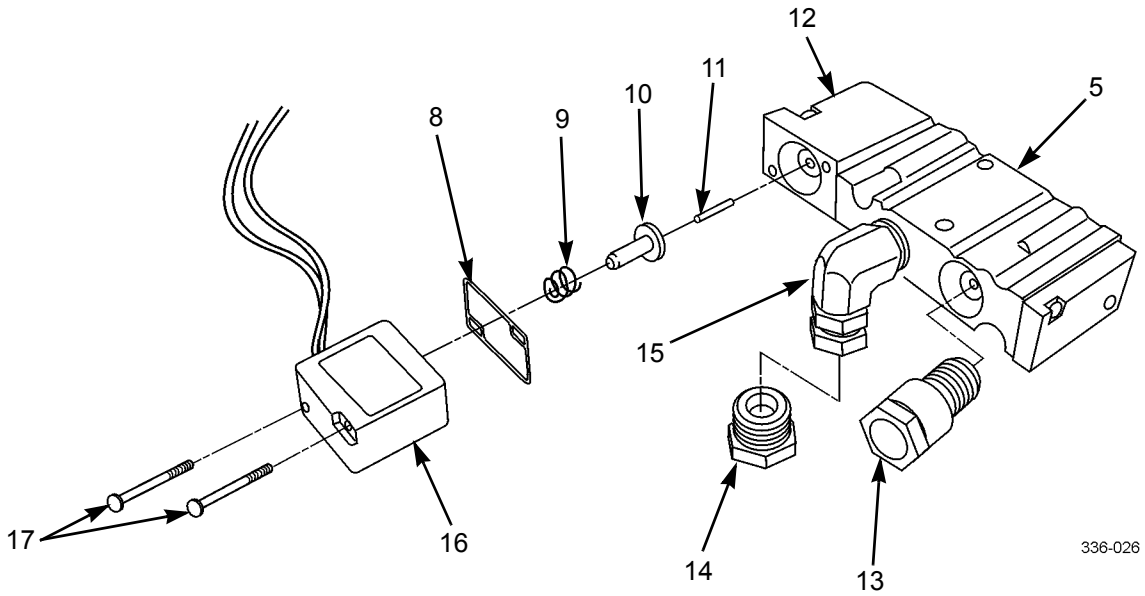
b. DISASSEMBLY

1. Remove two filters (6) and elbow (7) from valve body (5).

4-57. MCS AIR CYLINDER SOLENOID ASSEMBLY MAINTENANCE (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

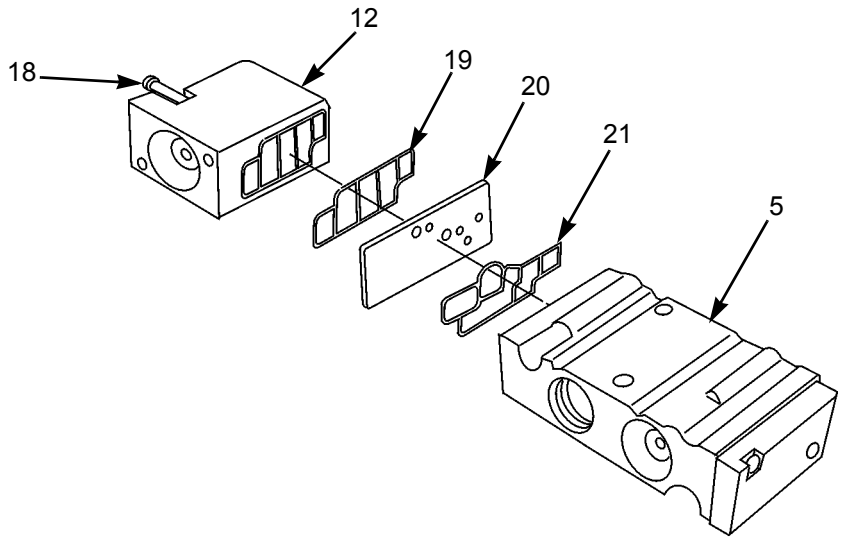


2. Remove fitting (13) from valve body (5).
3. Remove fitting (14) from elbow (15).
4. Remove two screws (17) and solenoid (16) from filter housing (12).
5. Remove plunger (10) and spring (9) from solenoid (16).
6. Remove pin (11) from plunger (10).
7. Remove gasket (8) from filter housing (12).
8. Remove elbow (15) from valve body (5).



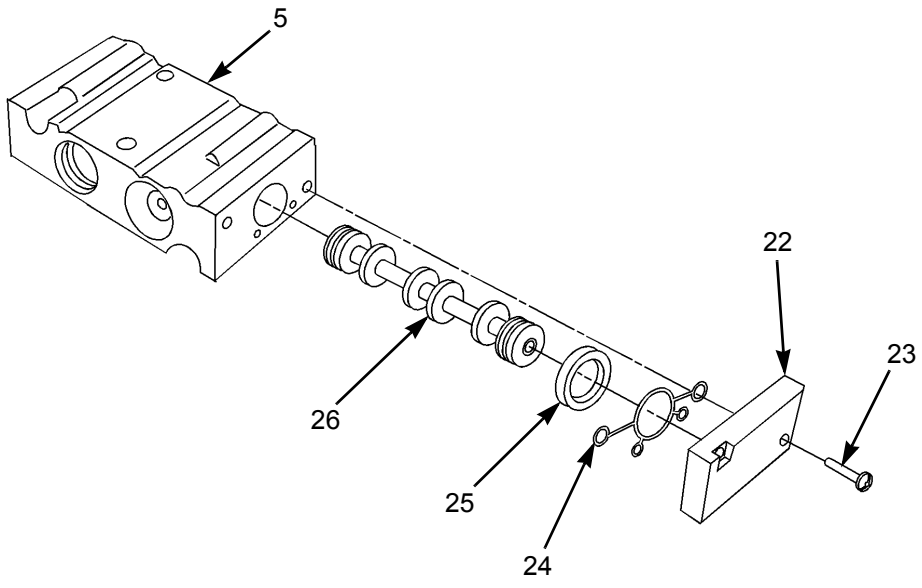
4-57. MCS AIR CYLINDER SOLENOID ASSEMBLY MAINTENANCE (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

9. Remove two screws (18), filter housing (12), and metal gasket (20) from valve body (5).
10. Remove gasket (19) from filter housing (12).
11. Remove gasket (21) from valve body (5).



336-027

12. Remove two screws (23) and end cap (22) from valve body (5).
13. Remove gasket (24) and plastic insert (25) from end cap (22).
14. Remove valve (26) from valve body (5).



336-028

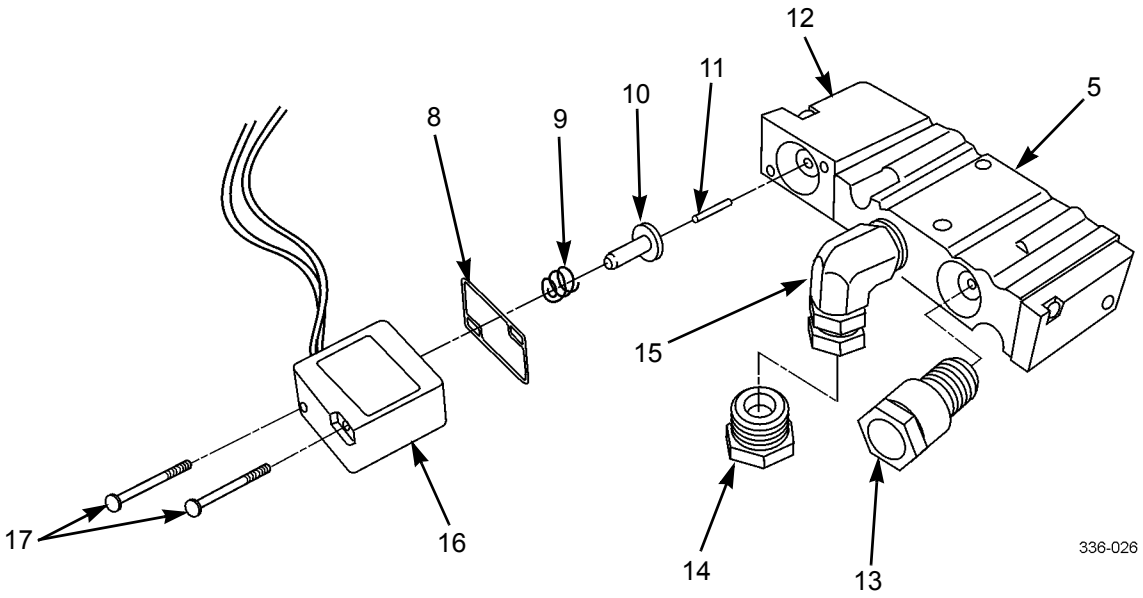
4-57. MCS AIR CYLINDER SOLENOID ASSEMBLY MAINTENANCE (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

c. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

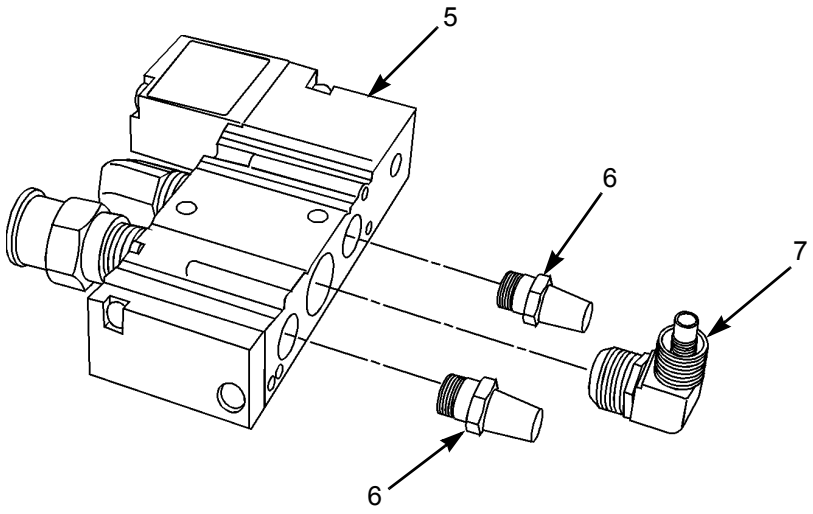
d. ASSEMBLY

1. Apply a light coat of grease to valve (26).
2. Install valve (26) in valve body (5).
3. Install gasket (24) and plastic insert (25) on end cap (22).
4. Position end cap (22) on valve body (5) and install two screws (23).
5. Install gasket (21) on valve body (5).
6. Install gasket (19) on filter housing (12).
7. Position metal gasket (20) and filter housing (12) on valve body (5) and install two screws (18).
8. Apply pipe sealing compound to elbow (15) and install elbow on valve body (5).
9. Install gasket (8) on filter housing (12).
10. Install pin (11) in plunger (10).
11. Position plunger (10) and spring (9) on solenoid (16).
12. Position solenoid (16) on filter housing (12) and install two screws (17).
13. Apply pipe sealing compound to fitting (14) and install fitting on elbow (15).
14. Apply pipe sealing compound to fitting (13) and install fitting on valve body (5).



4-57. MCS AIR CYLINDER SOLENOID ASSEMBLY MAINTENANCE (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

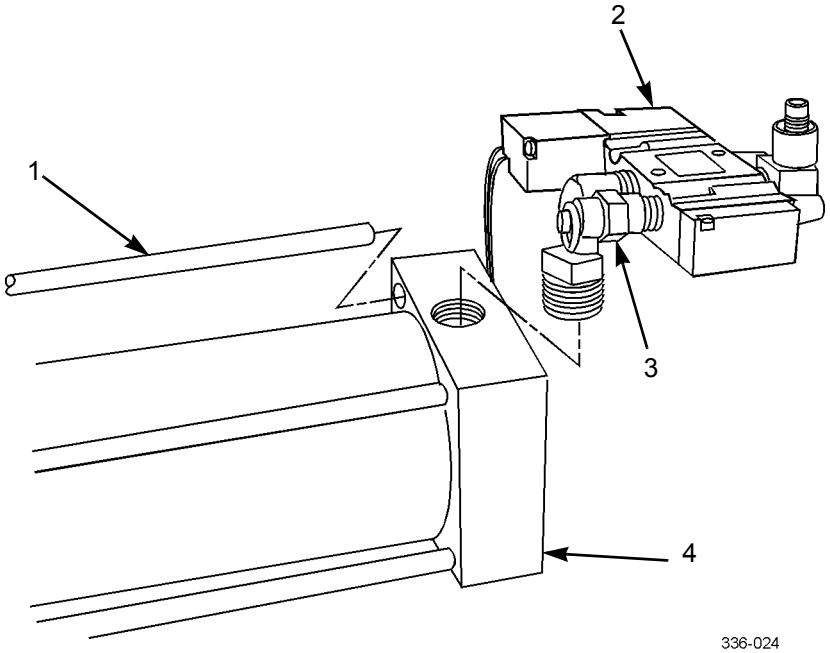
15. Apply pipe sealing compound to elbow (7) and install elbow on valve body (5)
16. Install two filters (6) on valve body (5).



336-025

e. INSTALLATION

1. Install solenoid assembly (2) to air cylinder (4).
2. Connect tube (1) to fitting (3) on solenoid assembly (2).



336-024

FOLLOW-ON TASKS:

- Install MCS air cylinder (paragraph 4-56).

4-58. TAILGATE RELEASE/MCS AIR CYLINDER REPAIR.

This task covers:

a. Disassembly
b. Cleaning and Inspection
c. Assembly

Initial Setup:

Equipment Conditions:

- Tailgate release/MCS air cylinder removed (paragraph 4-51 or 4-56).
- MCS air cylinder solenoid assembly removed (paragraph 4-57).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Ball bearing grease (Item 12, Appendix F)

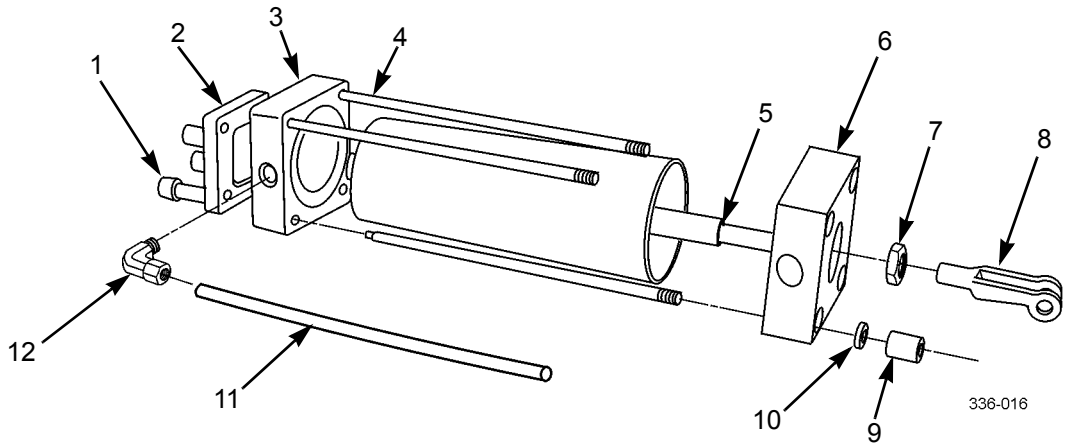
a. DISASSEMBLY

1. Remove tube (11) from elbow (12).
2. Remove elbow (12) from top end plate (3).
3. Remove four screws (1) and mounting bracket (2) from top end plate (3).

NOTE

Note position of nut at air cylinder piston shaft clevis during removal to ensure proper adjustment of air cylinder during installation.

4. Remove clevis (8) and nut (7) from piston shaft (5).
5. Remove four retaining nuts (9) and lockwashers (10) from tie rods (4).
6. Remove top end plate (3) with tie rods attached from bottom end plate (6).
7. Separate bottom end plate (6) from piston shaft (5).
8. Remove tie rods (4) from top end plate (3).

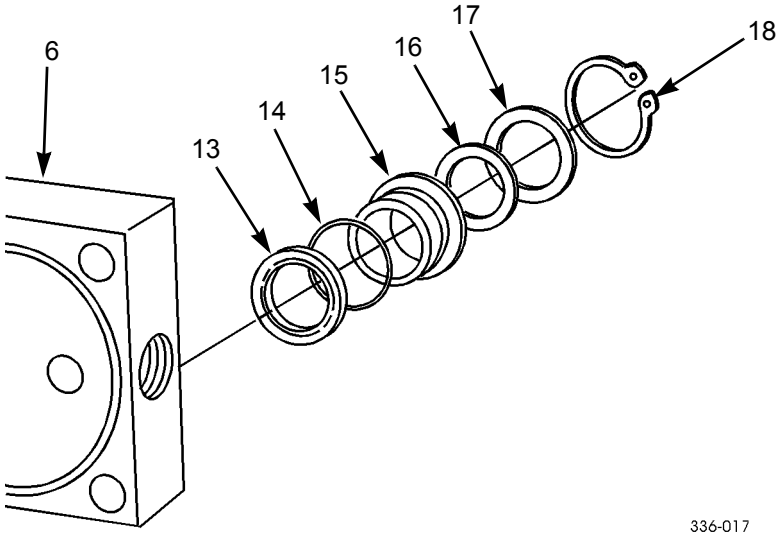


NOTE

Note position and direction of gaskets during removal to aid in installation.

4-58. TAILGATE RELEASE/MCS AIR CYLINDER REPAIR (Con't).

9. Remove retaining ring (18), metal washer (17), and plastic gasket (16) from bottom end plate (6).
10. Remove bushing (15) and gasket (13) from bottom end plate (6).
11. Remove preformed packing (14) from bushing (15).

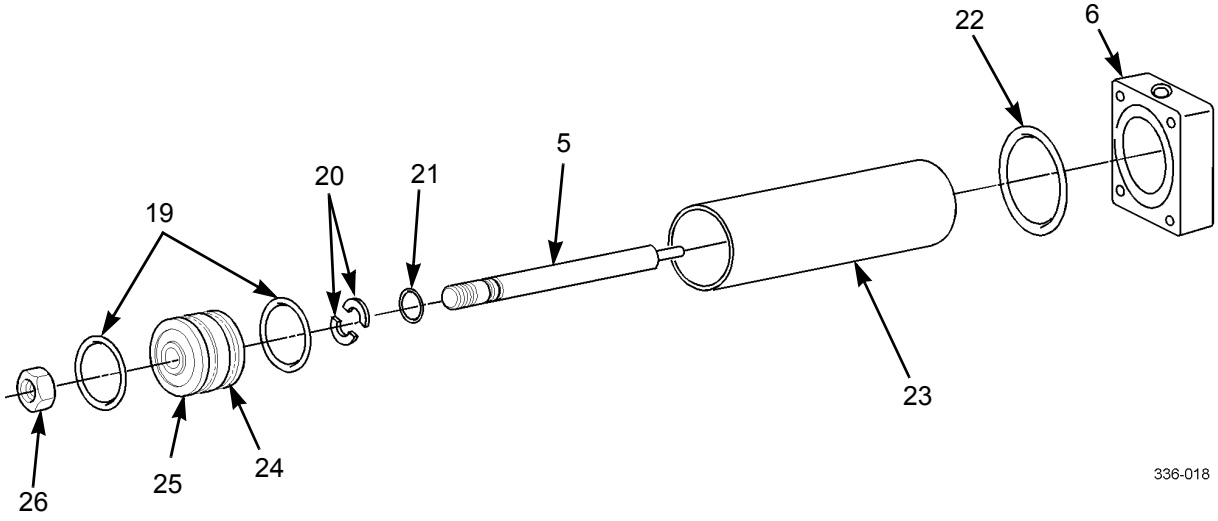


12. Remove gasket (22) from bottom end plate (6).
13. Remove cylinder sleeve (23) from piston (25).
14. Remove nut (26) from piston shaft (5).
15. Remove piston (25) and metal washer (20) halves from piston shaft (5).

NOTE

Note direction of gaskets during removal to aid in installation.

16. Remove two gaskets (19) and seal (24) from piston (25).
17. Remove preformed packing (21) from piston shaft (5).



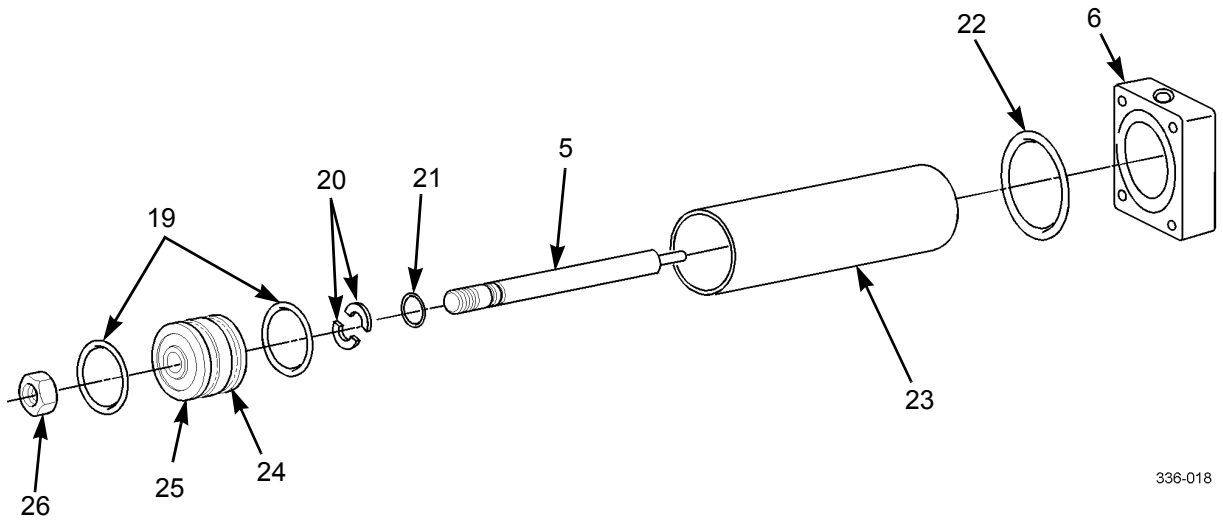
4-58. TAILGATE RELEASE/MCS AIR CYLINDER REPAIR (Con't).

b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

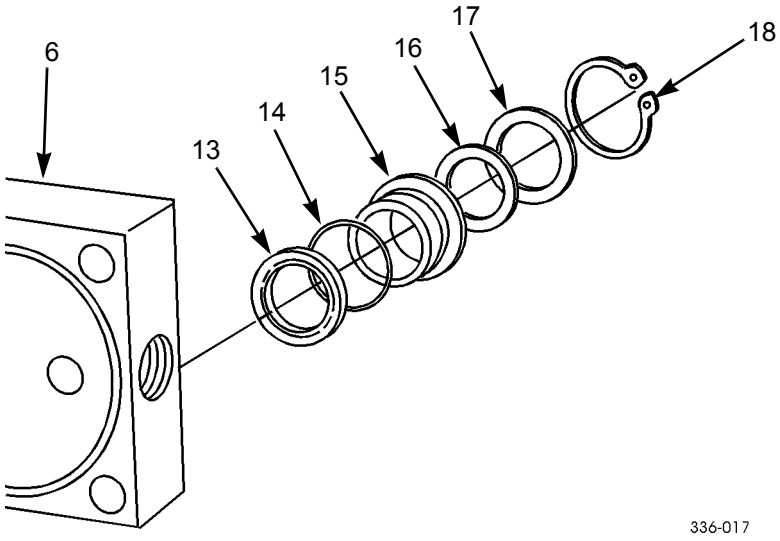
c. ASSEMBLY

1. Apply a light coat of grease to preformed packing (21) and install on piston shaft (5).
2. Apply a light of grease to piston (25).
3. Install two gaskets (19) and seal (24) on piston (25).
4. Install metal washer (20) halves on piston shaft (5) and install piston (25) on piston shaft.
5. Install nut (26) on piston shaft (5).
6. Install cylinder sleeve (23) on piston (25).
7. Install gasket (22) on bottom end plate (6).

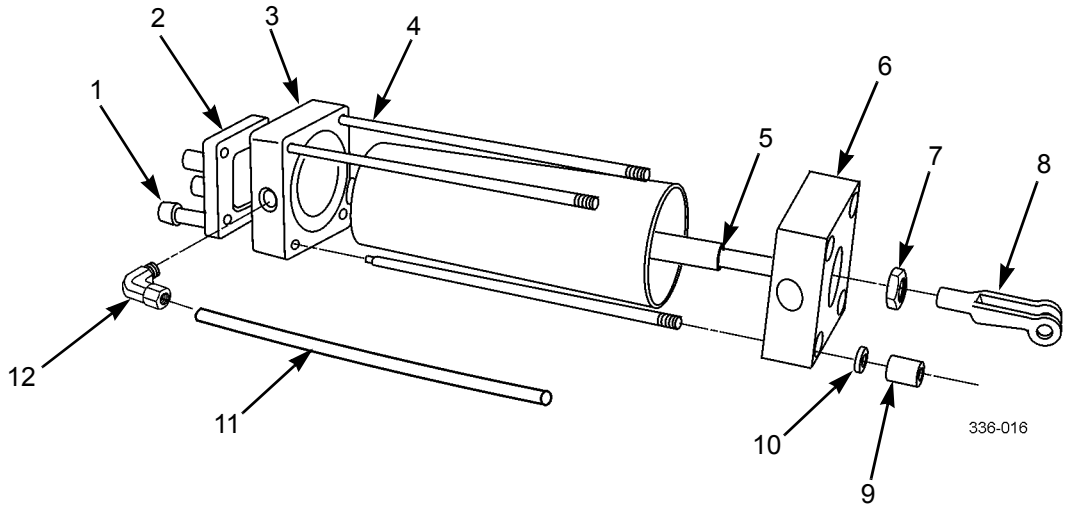


8. Apply a light coat of grease to preformed packing (14) and install on bushing (15).
9. Install gasket (13) and bushing (15) on bottom end plate (6).
10. Install plastic gasket (16), metal washer (17), and retaining ring (18) on bottom end plate (6).

4-58. TAILGATE RELEASE/MCS AIR CYLINDER REPAIR (Con't).



11. Install tie rods (4) on top end plate (3).
12. Position cylinder sleeve with piston on top end plate.
13. Slide bottom end plate (6) on piston shaft (5).
14. Install four lockwashers (10) and four retaining nuts (9) on tie rods (4).
15. Install nut (7) and clevis (8) on piston shaft (5) in same position as removal.
16. Install mounting bracket (2) and four screws (1) on top end plate (3).
17. Install elbow (12) on top end plate (3).
18. Install tube (11) on elbow (12).



FOLLOW-ON TASKS:

- Install MCS air cylinder solenoid assembly (paragraph 4-57).
- Install tailgate release/MCS air cylinder (paragraph 4-51 or 4-56).

4-59. TAILGATE RELEASE/MCS AIR LINES AND FITTINGS REPLACEMENT.

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Chassis air system drained (TM 9-2320-363-10 or TM 9-2320-302-10).
- MCS air system drained (Chapter 2, Section II, *Operator PMCS*).
- MCS tailgate cover removed, if replacing MCS air lines (paragraph 4-53).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Marker tags (Item 20, Appendix F)
- Tie wraps (Item 19, Appendix F)

General Safety Instructions:

- DO NOT disconnect air lines while air system is pressurized.

a. REMOVAL

WARNING

DO NOT disconnect air lines while air system is pressurized. Air system pressure must be released before air lines are disconnected. A line disconnected under pressure may cause personnel injury.

NOTE

- **Replacement of tailgate release or MCS air lines is the same. Replacement of an MCS air line is shown.**
- **Air lines should be tagged before removal (paragraph 4-17).**
- **Note location of tie wraps prior to removal to aid in installation.**

4-59. TAILGATE RELEASE/MCS AIR LINES AND FITTINGS REPLACEMENT (Con't).

1. If removing an air line, disconnect each end of air line (1) at fitting (2).
2. If removing a fitting, disconnect all air lines (1) from fitting (2).

b. CLEANING AND INSPECTION

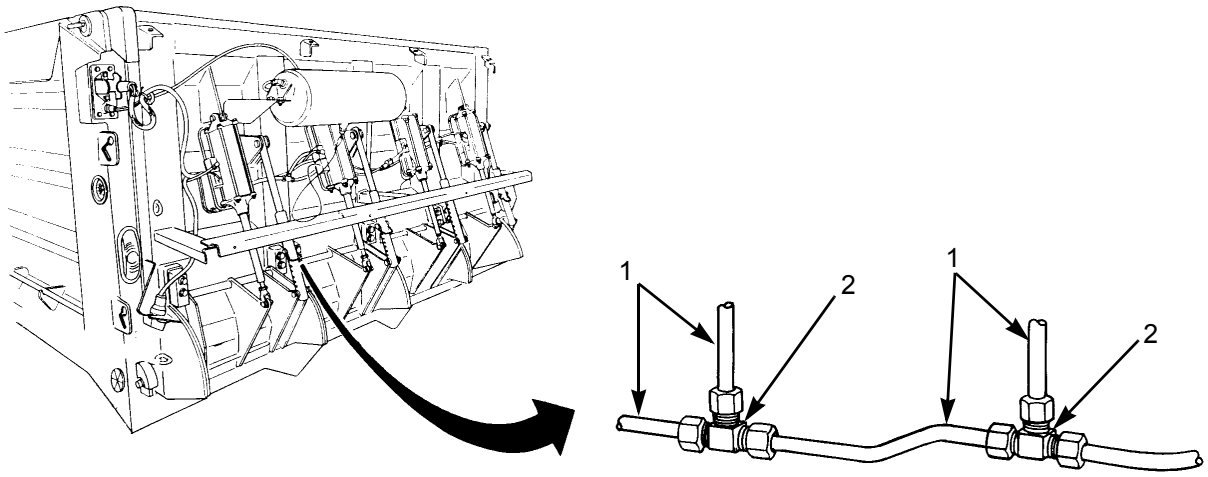
Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

c. INSTALLATION

NOTE

For information on manufacturing air lines, refer to Appendix G, *Illustrated List of Manufactured Items*.

1. If installing a fitting, connect all air lines (1) to fitting (2).
2. If installing an air line, connect each end of air line (1) to fitting (2).
3. Install new tie wraps, as required.



FOLLOW-ON TASKS:

- Start engine and pressurize air systems (TM 9-2320-363-10 or TM 9-2320-302-10).
- Operate tailgate release control valve lever or MCS gates (paragraph 2-1 or 2-13). Check for leaks.
- Install MCS tailgate cover, if removed (paragraph 4-53).

4-60. MCS ADJUSTMENT TUBE REPLACEMENT (M917A1 W/MCS AND M917A2 W/MCS).

This task covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- MCS gates closed (paragraph 2-12).
- Chassis air system drained (TM 9-2320-363-10 or TM 9-2320-302-10).
- MCS air system drained (Chapter 2, Section II, *Operator PMCS*).
- MCS tailgate cover removed (paragraph 4-53).

Tools/Test Equipment:

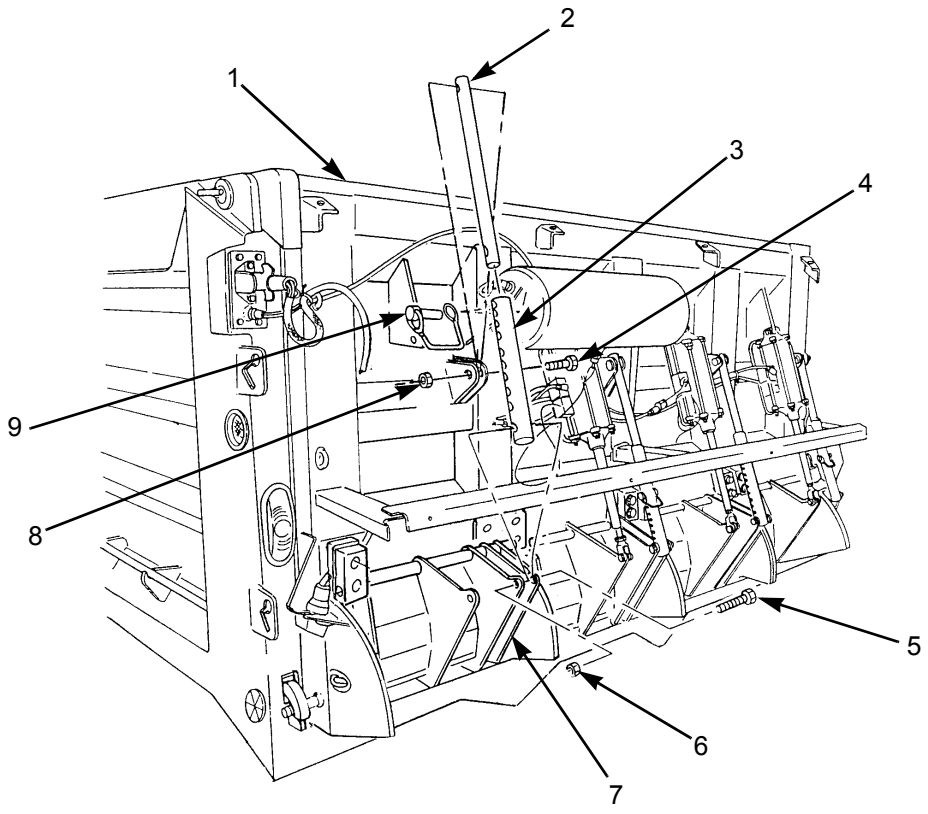
- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Two locknuts

a. REMOVAL

1. Remove locking pin (9) from adjustment tube (3).
2. Remove locknut (6), screw (5), and adjustment tube (3) from MCS gate (7). Discard locknut.
3. Remove locknut (8), screw (4), and upper tube (2) from MCS tailgate (1). Discard locknut.



4-60. MCS ADJUSTMENT TUBE REPLACEMENT (M917A1 W/MCS AND M917A2 W/MCS) (Con't).

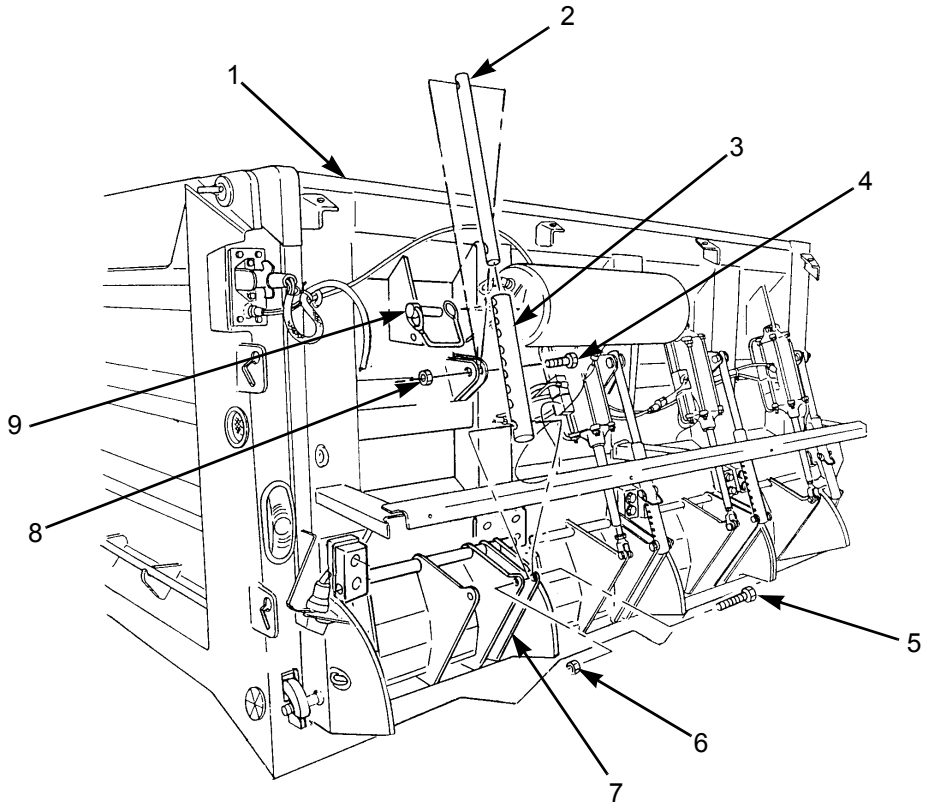
b. INSTALLATION

1. Install upper tube (2) to MCS tailgate (1) with screw (4) and new locknut (8).
2. Position adjustment tube (3) over upper tube (2). Install adjustment tube to MCS gate (7) with screw (5) and new locknut (6).

CAUTION

Outer right and outer left side adjustment tube locking pins must be installed with pin heads to outside. If incorrectly installed, end of pins will protrude and become bent.

3. Install locking pin (9) to adjustment tube (3).



FOLLOW-ON TASKS:

- Check operation of MCS adjustment tube (paragraph 2-12).
- Install MCS tailgate cover (paragraph 4-53).

4-61. BODY PROP REPLACEMENT.

This task covers:

a. Removal

b. Installation

Initial Setup:

Tools/Test Equipment:

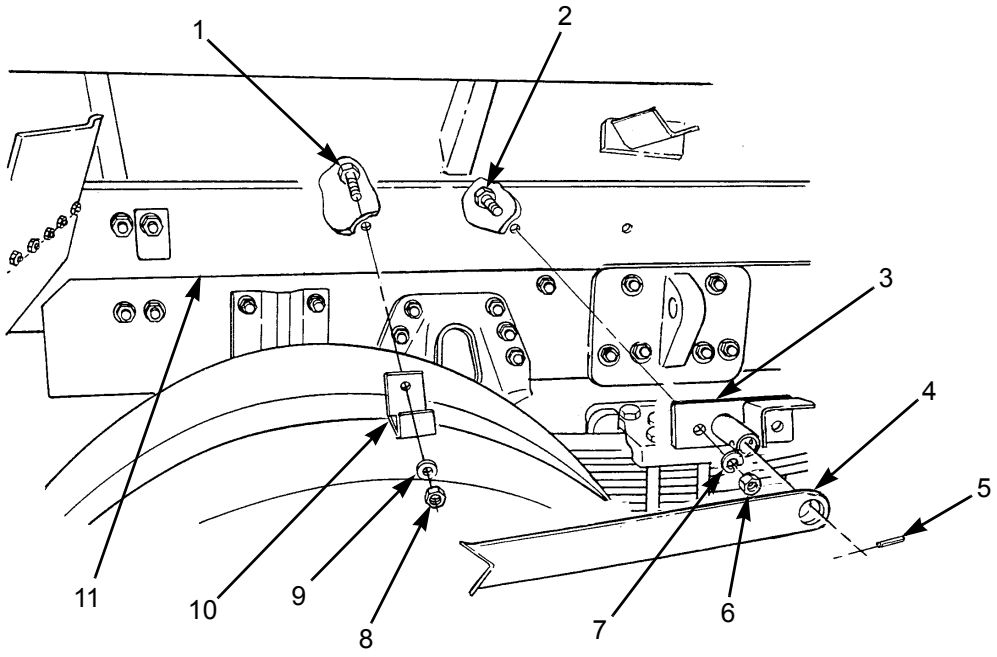
- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- One spring pin
- Three lockwashers

a. REMOVAL

1. Remove spring pin (5) and body prop (4) from pivot bracket (3). Discard spring pin.
2. Remove two nuts (6), lockwashers (7), screws (2), and pivot bracket (3) from frame (11). Discard lockwashers.
3. Remove nut (8), lockwasher (9), screw (1), and support bracket (10) from frame (11). Discard lockwasher.



b. INSTALLATION

1. Install support bracket (10) to frame (11) with screw (1), new lockwasher (9), and nut (8).
2. Install pivot bracket (3) to frame (11) with two screws (2), new lockwashers (7), and nuts (6).
3. With body prop (4) positioned above support bracket (10), install body prop to pivot bracket (3) with new spring pin (5).

FOLLOW-ON TASKS:

- Lubricate body prop (Chapter 3, Section I).

4-62. CAB SHIELD REPLACEMENT.

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Beacon warning light removed (TM 9-2320-363-10 or TM 9-2320-302-10).
- Dump body raised and supported on body props (paragraph 2-15).
- Beacon warning light wiring harness removed from cab shield (paragraph 4-45).

Materials/Parts:

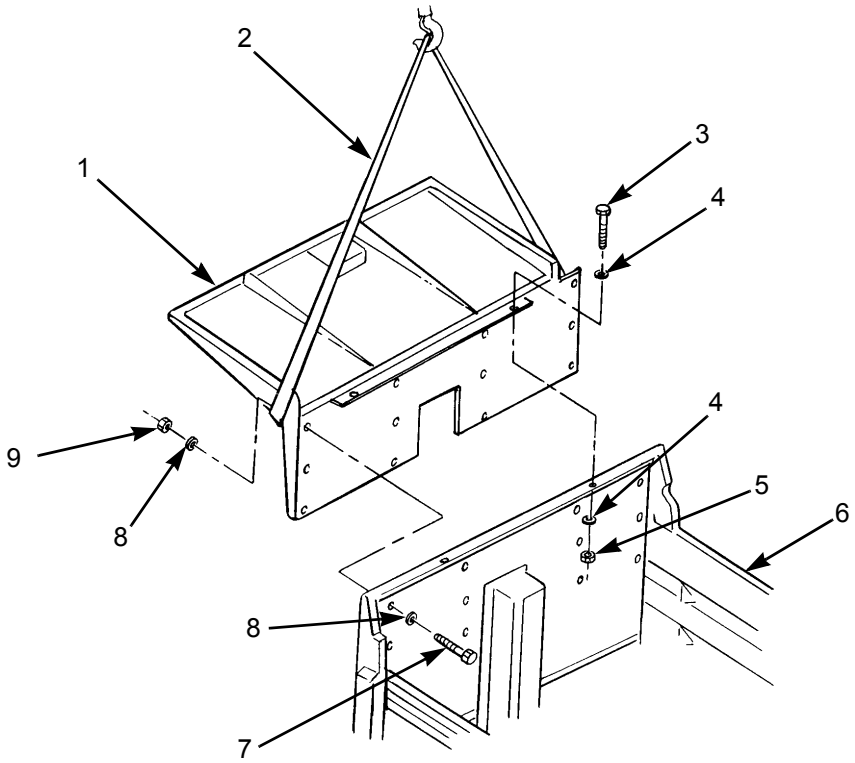
- Fourteen locknuts

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)
- Lifting slings (three) (Item 6, Appendix I)
- Torque wrench (Item 11, Appendix I)
- Suitable lifting device

a. REMOVAL

1. At center of cab shield (1), remove six locknuts (9), 12 washers (8), and six screws (7). Discard locknuts.
2. Remove body props and lower dump body (paragraph 2-15).



4-62. CAB SHIELD REPLACEMENT (Con't).

WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

3. Attach lifting slings (2) to cab shield (1) and remove slack from lifting slings.
4. Remove six locknuts (9), 12 washers (8), and six screws (7) from outside edges of cab shield (1) and dump body (6). Discard locknuts.
5. Remove two locknuts (5), four washers (4), and two screws (3) from top of cab shield (1) and dump body (6). Discard locknuts.
6. Lift cab shield (1) from dump body (6) and place cab shield in a safe work area.

b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

c. INSTALLATION

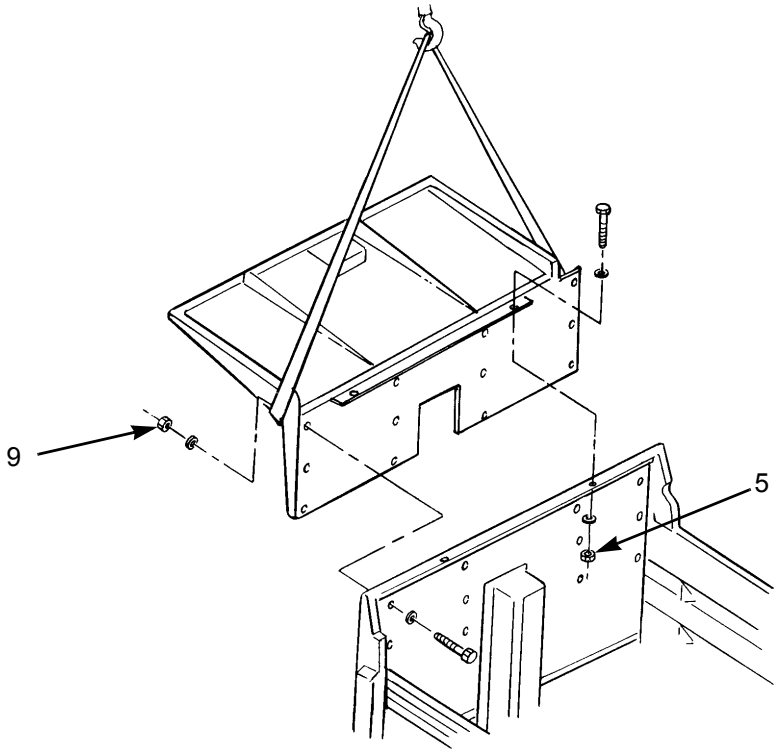
WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

1. Raise cab shield (1) to dump body (6).
2. Install two screws (3), four washers (4), and two new locknuts (5) to top of cab shield (1) and dump body (6).
3. Install six screws (7), 12 washers (8), and six new locknuts (9) to outside edges of cab shield (1) and dump body (6).
4. Remove lifting slings (2) from cab shield (1).
5. Raise and support dump body on body props (paragraph 2-15).
6. Install six screws (7), 12 washers (8), and six new locknuts (9) to center of cab shield (1) and dump body (6).

4-62. CAB SHIELD REPLACEMENT (Con't).

7. Torque 12 locknuts (9) and two locknuts (5) to 150 ft.-lb. (203 N•m).



FOLLOW-ON TASKS:

- Install beacon warning light wiring harness to cab shield (paragraph 4-45).
- Remove body props and lower dump body (paragraph 2-15).
- Install beacon warning light (TM 9-2320-363-10 or TM 9-2320-302-10).

4-63. MUD FLAP REPLACEMENT.

This task covers:

a. Removal

b. Installation

Initial Setup:

Tools/Test Equipment:

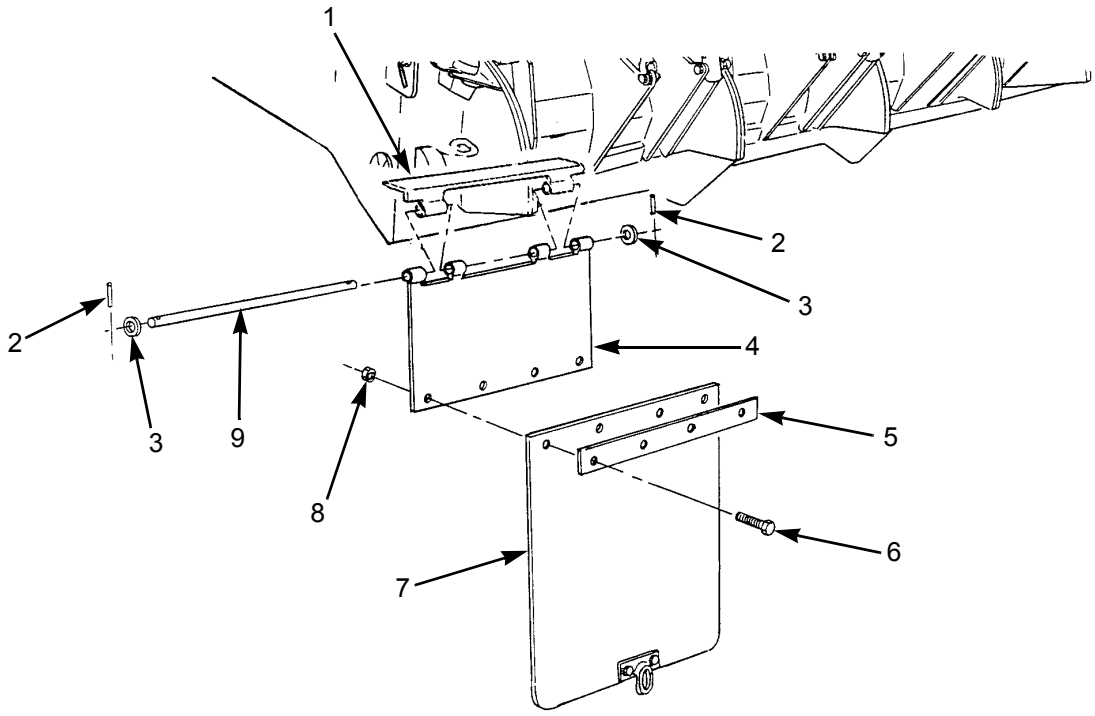
- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Two spring pins
- Six locknuts

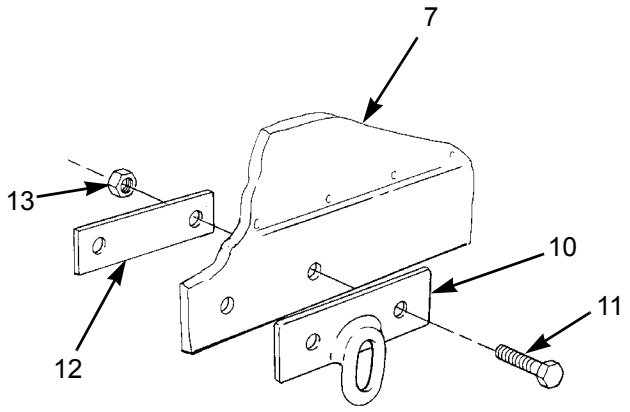
a. REMOVAL

1. Remove four locknuts (8), screws (6), plate (5), and mud flap (7) from mounting plate (4). Discard locknuts.
2. Remove two spring pins (2), washers (3), and shaft (9) and separate mounting plate (4) from weldment (1) on dump body. Discard spring pins.



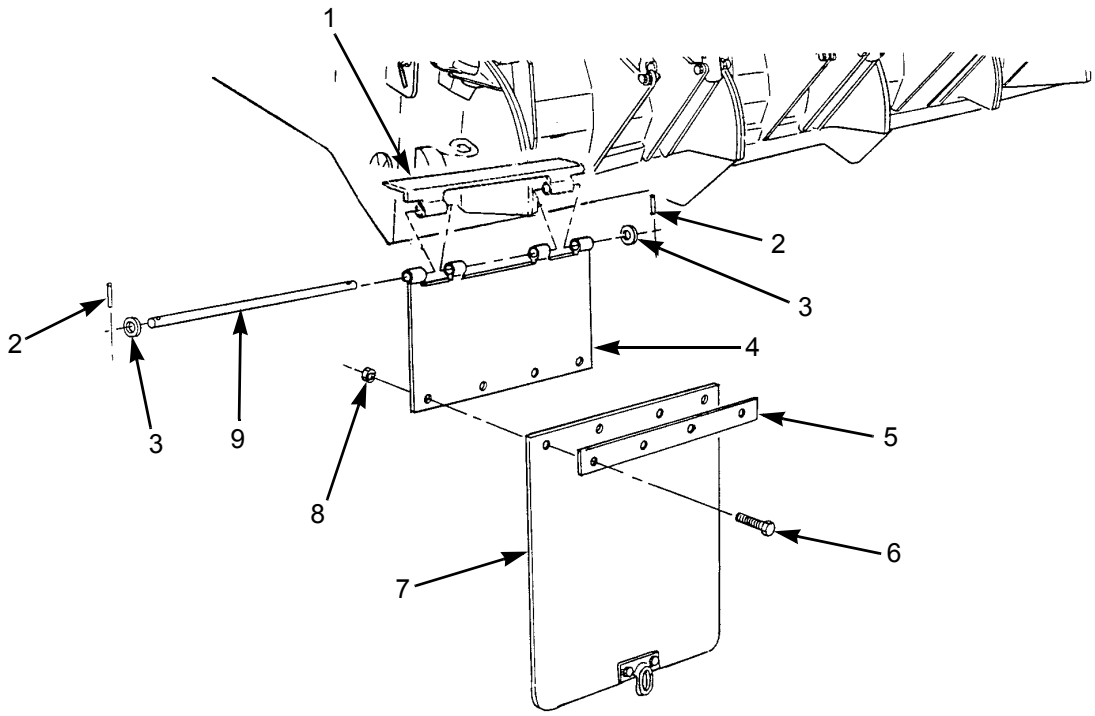
4-63. MUD FLAP REPLACEMENT (Con't).

3. Remove two locknuts (13), screws (11), anchor plate (12), and mounting plate (10) from mud flap (7). Discard locknuts.



b. INSTALLATION

1. Install mounting plate (10) and anchor plate (12) to mud flap (7) with two screws (11) and new locknuts (13).
2. Install mounting plate (4) to weldment (1) on dump body with shaft (9), two washers (3), and new spring pins (2) through shaft.
3. Install mud flap (7) and plate (5) to mounting plate (4) with four screws (6) and new locknuts (8).



Section VIII. DUMP BODY ACCESSORY ITEMS MAINTENANCE

Paragraph Number	Paragraph Title	Page Number
4-64.	Cargo Cover Replacement	4-101
4-65.	Cargo Cover Crank Assembly Maintenance	4-103
4-66.	Cargo Cover Chain and Sprockets Replacement	4-106
4-67.	Cargo Cover Support Frame and Roll-Up Bar Replacement	4-110
4-68.	Reflector Replacement	4-113
4-69.	Data Plate Replacement	4-114
4-70.	Shovel Bracket Replacement	4-115
4-71.	Spill Shield Replacement	4-116

4-64. CARGO COVER REPLACEMENT.

This task covers:

a. Removal

b. Installation

Initial Setup:

Tools/Test Equipment:

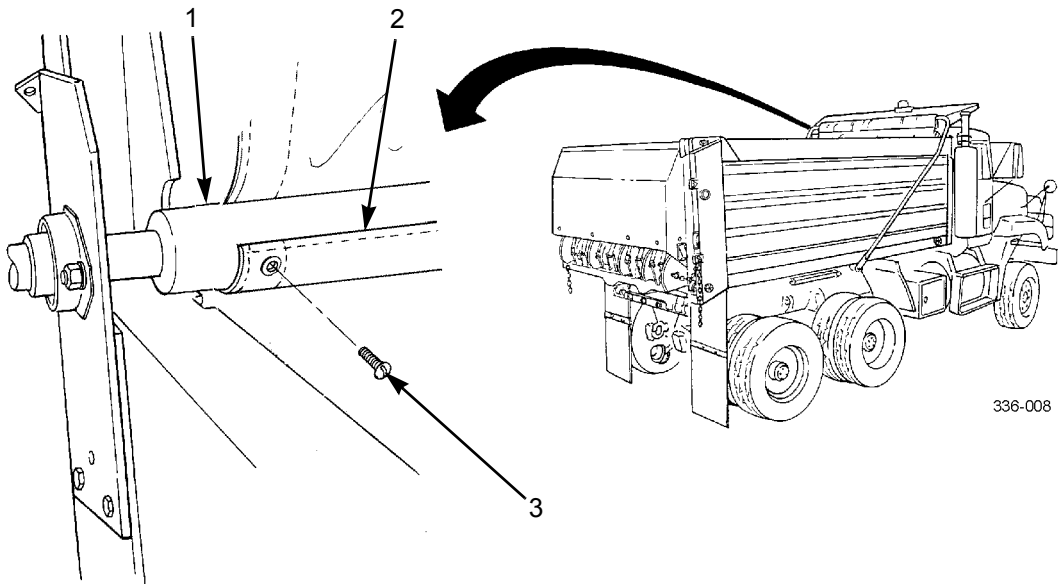
- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Two locknuts

a. REMOVAL

1. Extend cargo cover (2) over dump body (paragraph 2-14). Release control handle and manually unwind cargo cover to access screws (3).
2. Remove six screws (3) holding cargo cover (2) to roll-up bar (1).

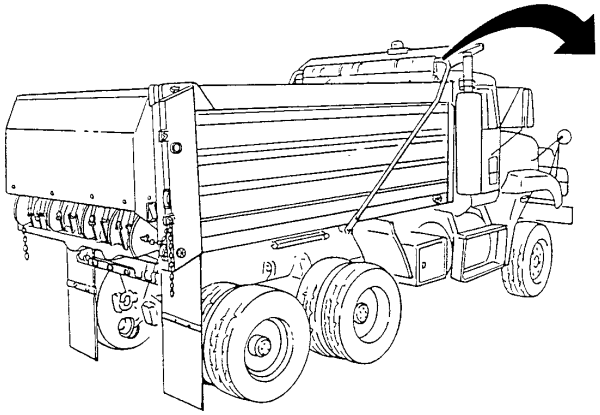


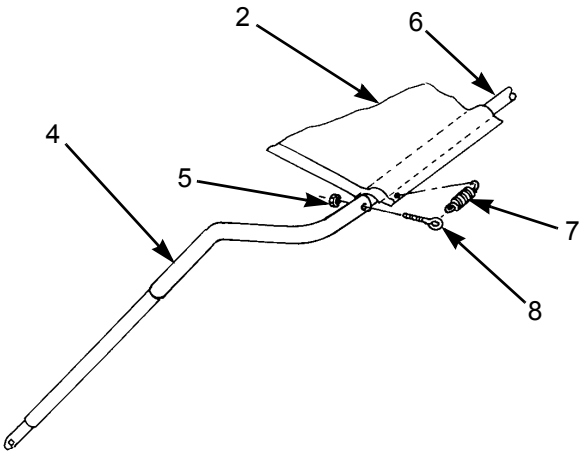
4-64. CARGO COVER REPLACEMENT (Con't).

3. Uncrimp and remove centering springs (7) from eye bolts (8) and from grommets in cargo cover (2).
4. Remove two locknuts (5) and eye bolts (8) from cross arm (6) and connecting arms (4). Discard locknuts.
5. Remove cross arm (6) from connecting arms (4). Slide cross arm from cargo cover (2). Remove cargo cover.

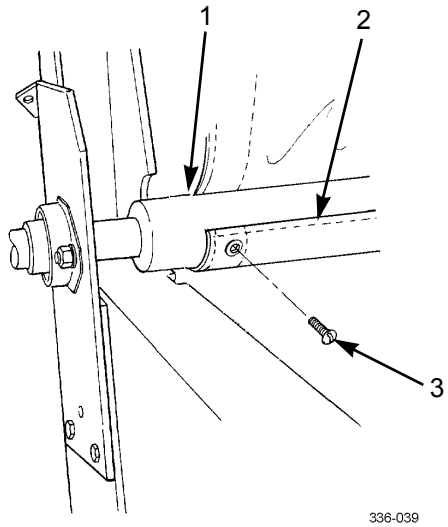
b. INSTALLATION

1. Install cross arm (6) through pocket in cargo cover (2).
2. Install cross arm (6) into each connecting arm (4) and secure with two eye bolts (8) and new locknuts (5).
3. Attach two centering springs (7) to eye bolts (8) and to grommets in cargo cover (2). Crimp spring ends.





4. Pull cargo cover (2) to roll-up bar (1). Pass cover UNDER roll-up bar and secure to roll-up bar with six screws (3).
5. Fully retract cargo cover (2) (paragraph 2-14).



4-65. CARGO COVER CRANK ASSEMBLY MAINTENANCE.

This task covers:

a. Removal
b. Disassembly
c. Cleaning and Inspection
d. Assembly
e. Installation

Initial Setup:

Equipment Conditions:

- Cargo cover extended and crank handle removed (paragraph 2-14).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

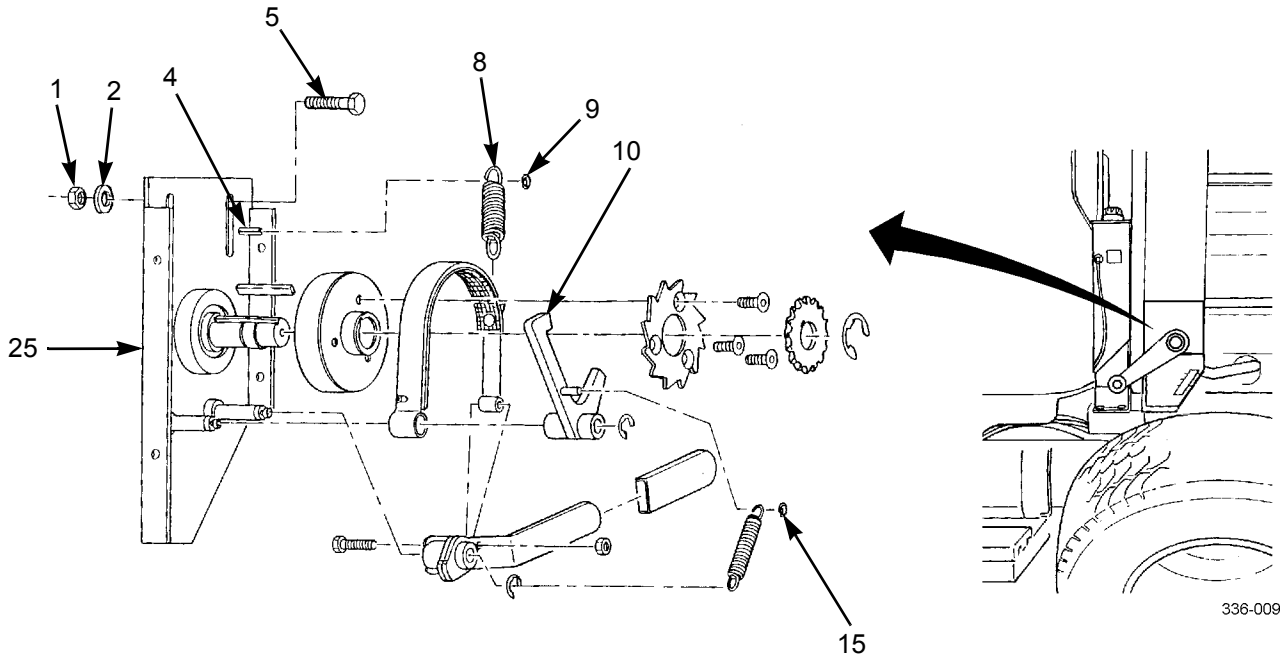
- One locknut
- Two pushnuts

a. REMOVAL

1. Remove chain from sprockets (paragraph 4-66).
2. Remove two nuts (1), washers (2), screws (5), and crank assembly baseplate (25) from dump body.

b. DISASSEMBLY

1. Remove pushnut (9) from crank assembly baseplate stud (4). Remove brake band spring (8) and discard pushnut.
2. Remove pushnut (15) from brake pawl (10). Discard pushnut.



4-65. CARGO COVER CRANK ASSEMBLY MAINTENANCE (Con't).

3. Remove retaining ring (20) from control handle (21). Remove brake pawl spring (16). Discard retaining ring if damaged.

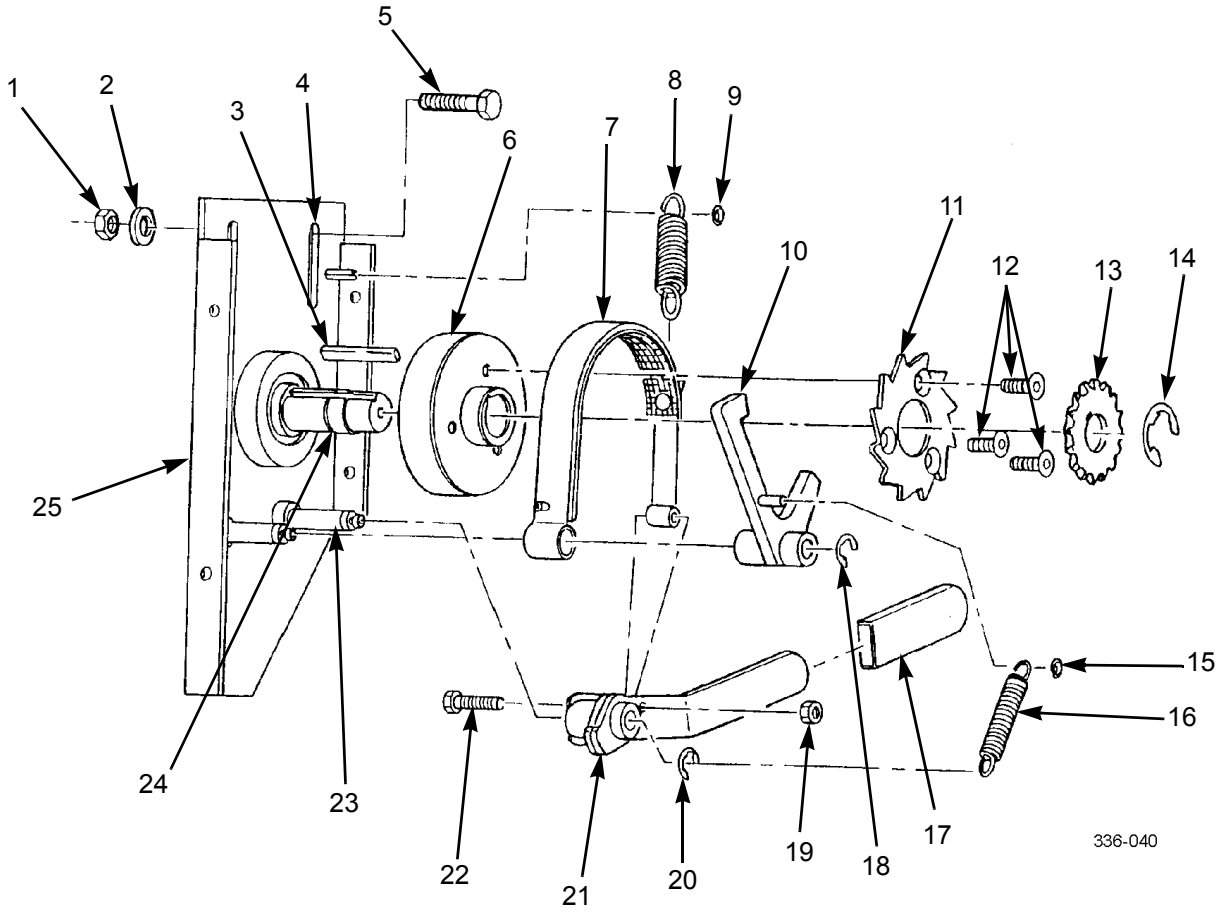
4. Remove retaining ring (18) and brake pawl (10) from pivot shaft (23). Discard retaining ring if damaged.

5. Remove control handle (21) and brake band (7) from crank assembly baseplate (25). Remove locknut (19) and screw (22) from control handle and brake band. Discard locknut. Replace handle grip (17) if damaged.

6. Remove retaining ring (14) from crank shaft (24). Remove chain sprocket (13) from shaft. Discard retaining ring if damaged.

7. Remove three screws (12) and ratchet (11) from brake drum (6).

8. Remove brake drum (6) and key (3) from crank shaft (24).



c. CLEANING AND INSPECTION

Clean and inspect all components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

4-65. CARGO COVER CRANK ASSEMBLY MAINTENANCE (Con't).

d. ASSEMBLY

1. Install key (3) and brake drum (6) on crank shaft (24).
2. Position ratchet (11) on brake drum (6) and secure with three screws (12).
3. Install chain sprocket (13) on crank shaft (24) with retaining ring (14).
4. Attach brake band (7) to control handle (21) with screw (22) and new locknut (19).
5. Position brake band (7) over brake drum (6). Position control handle (21) on pivot shaft (23).
6. Install brake pawl (10) on crank assembly baseplate (25) with retaining ring (18).
7. Install brake pawl spring (16) between control handle (21) and brake pawl (10). Secure brake pawl spring to pawl with new pushnut (15). Secure to control handle with retaining ring (20).
8. Install brake band spring (8) between brake band (7) and crank assembly baseplate stud (4). Secure with new pushnut (9).

e. INSTALLATION

1. Install crank assembly baseplate (25) on dump body with two screws (5), washers (2), and nuts (1). Do not tighten screws.
2. Install chain to sprockets and tighten screws (5) (paragraph 4-66).

FOLLOW-ON TASKS:

- Check operation of cargo cover (paragraph 2-14).
- Fully retract cargo cover (paragraph 2-14).

4-66. CARGO COVER CHAIN AND SPROCKETS REPLACEMENT.

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Cargo cover extended and crank handle removed (paragraph 2-14).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

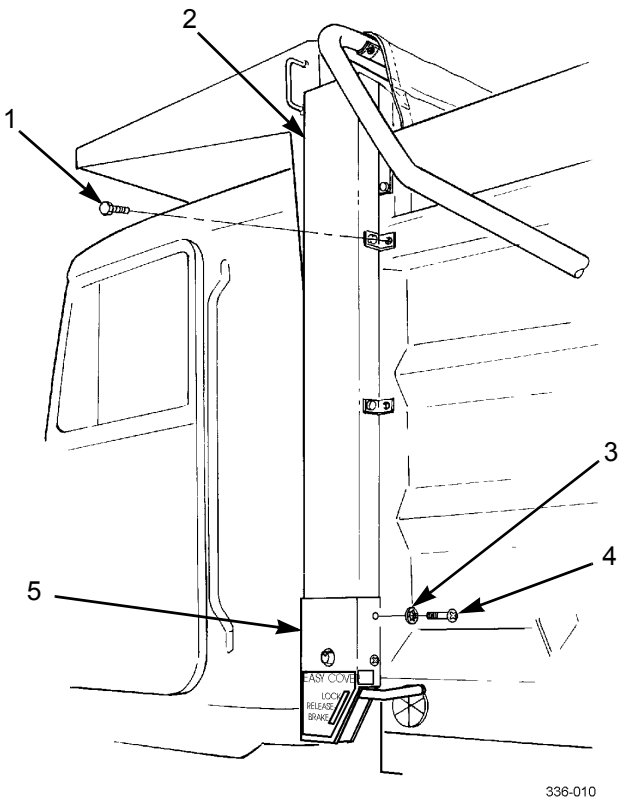
- Corrosion preventive (Item 8, Appendix F)
- Four starwashers

a. REMOVAL

NOTE

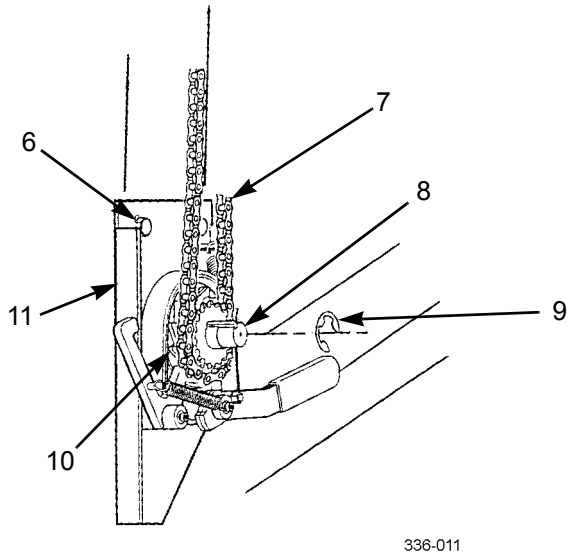
Perform steps 1, 2, 3, and 5 to remove chain from sprockets.

1. Remove four screws (4), starwashers (3), and crank assembly cover (5). Discard starwashers.
2. Remove four screws (1) and chain cover (2).

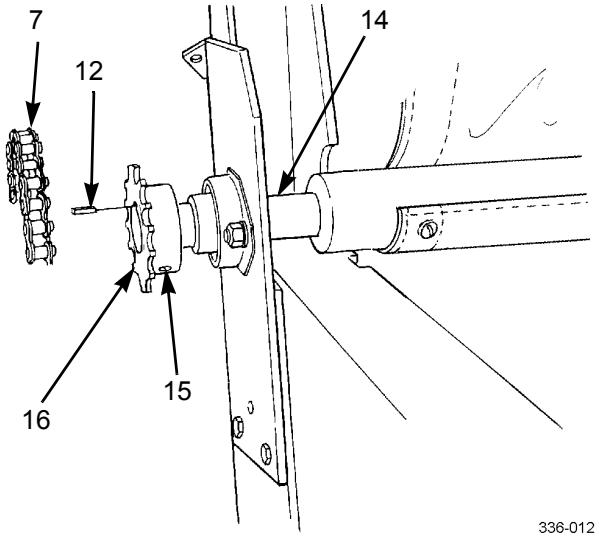


4-66. CARGO COVER CHAIN AND SPROCKETS REPLACEMENT (Con't).

3. Loosen crank assembly baseplate mounting screws (6). Raise crank assembly baseplate (11) and remove chain (7) from sprocket (10).
4. Remove retaining ring (9) and sprocket (10) from crankshaft (8). Discard retaining ring if damaged.



5. Remove chain (7) from sprocket (16).
6. Loosen set screw (15) and remove sprocket (16) with sprocket alinement key (12) from roll-up bar (14).



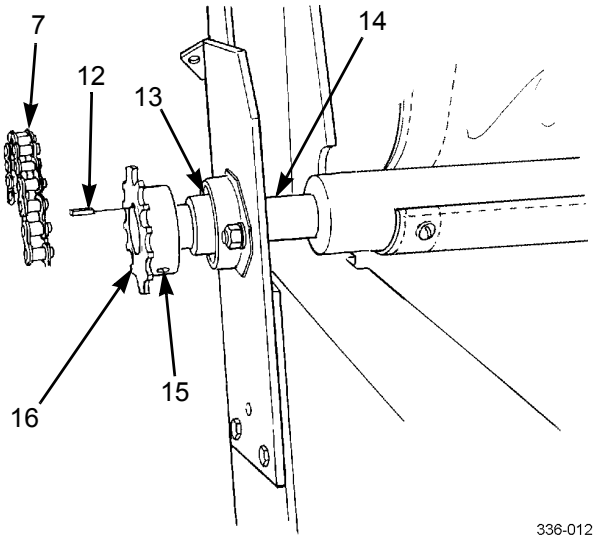
b. CLEANING AND INSPECTION

Clean and inspect all components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

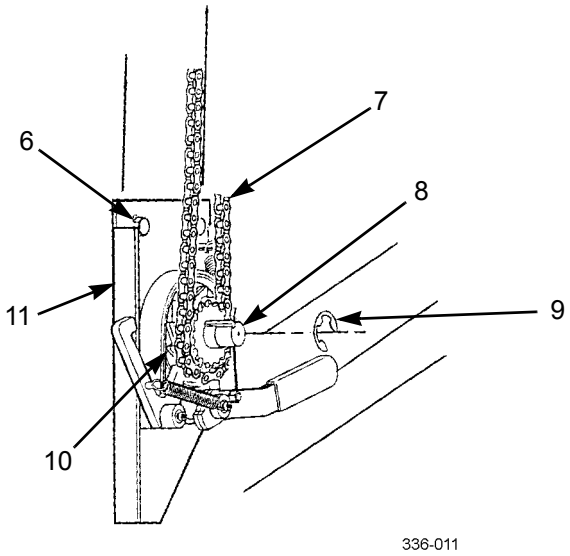
4-66. CARGO COVER CHAIN AND SPROCKETS REPLACEMENT (Con't).

c. INSTALLATION

1. Install sprocket alinement key (12) and sprocket (16) on roll-up bar (14). Tighten set screw (15).
2. Position chain (7) over sprocket (16).

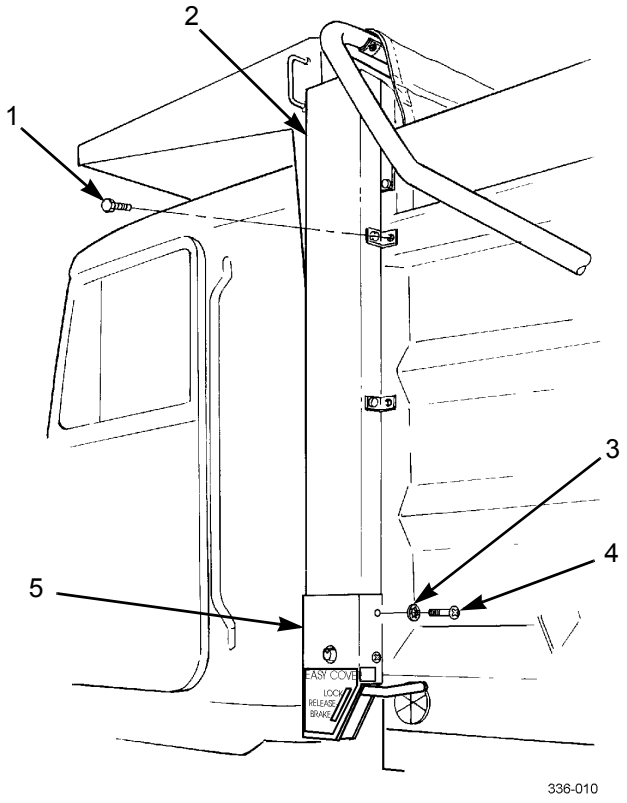


3. Install sprocket (10) on crankshaft (8) with retaining ring (9).
4. Raise baseplate (11) and position chain (7) under sprocket (10). Lower baseplate to put tension on chain. Tighten mounting screws (6).
5. Apply corrosion preventive sparingly to chain (7) and to roller shaft bearings (13) on both ends of roll-up bar (14).



4-66. CARGO COVER CHAIN AND SPROCKETS REPLACEMENT (Con't).

6. Install chain cover (2) with four screws (1).
7. Install crank assembly cover (5) with four new starwashers (3) and screws (4).



FOLLOW-ON TASKS:

- Check operation of cargo cover (paragraph 2-14).
- Fully retract cargo cover (paragraph 2-14).

4-67. CARGO COVER SUPPORT FRAME AND ROLL-UP BAR REPLACEMENT.

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Cargo cover removed (paragraph 4-64).
- Cargo cover chain removed (paragraph 4-66).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

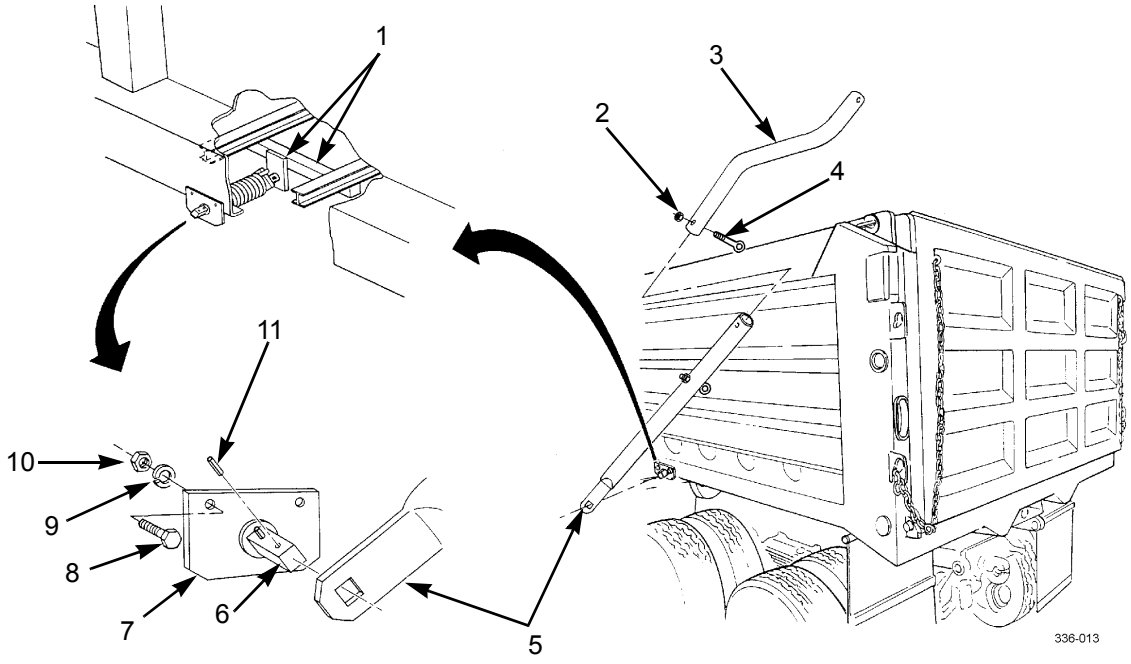
- One locknut
- One spring pin
- Five lockwashers

NOTE

Left and right side components of cargo cover support frame are removed and installed the same way; left side is illustrated.

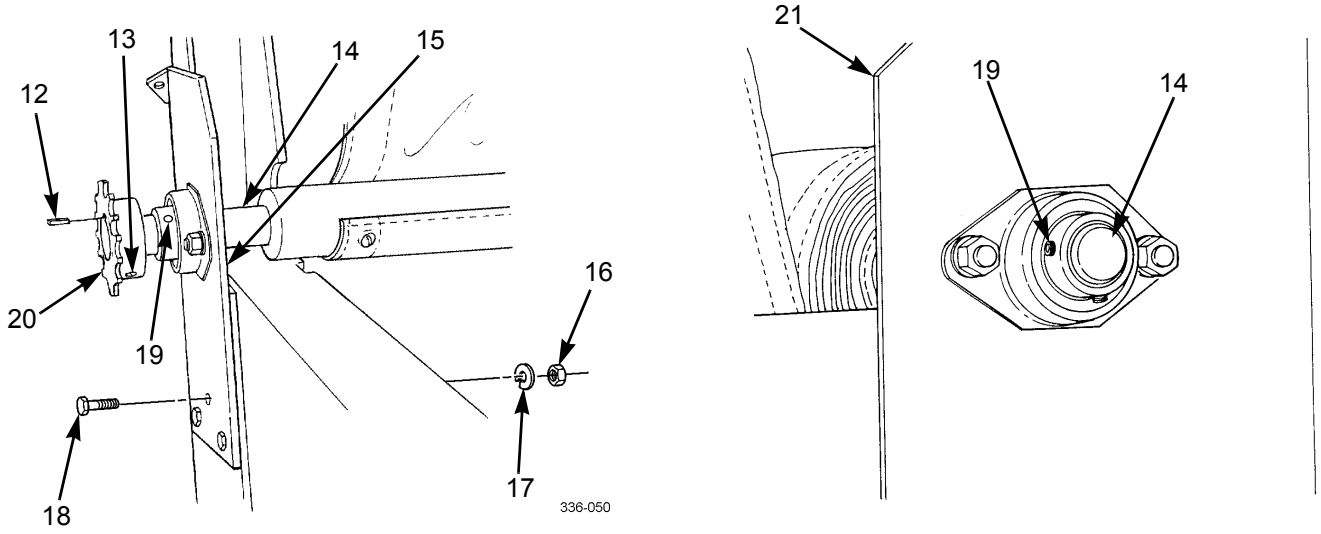
a. REMOVAL

1. Remove rubber strap from connecting arm (3) and swing arm (5).
2. Remove spring pin (11) from shaft (6) on spring assembly (7). Remove swing arm (5) from shaft. Discard spring pin.
3. Remove nut (2) and eyebolt (4) and separate swing arm (5) and connecting arm (3). Discard locknut.
4. Remove two nuts (10), lockwashers (9), and screws (8) from spring assembly (7). Remove spring assembly from dump body and from welded shaft support bar and tube (1). Discard lockwashers.



4-67. CARGO COVER SUPPORT FRAME AND ROLL-UP BAR REPLACEMENT (Con't).

5. Loosen set screw (13) and remove sprocket (20) with sprocket alinement key (12) from roll-up bar (14).
6. Remove three nuts (16), lockwashers (17), and screws (18) from left mounting bracket (15) and dump body. Discard lockwashers.
7. Loosen set screw (19) at each end of roll-up bar (14). Remove left mounting bracket (15) and roll-up bar. Slide bracket from roll-up bar.



b. CLEANING AND INSPECTION

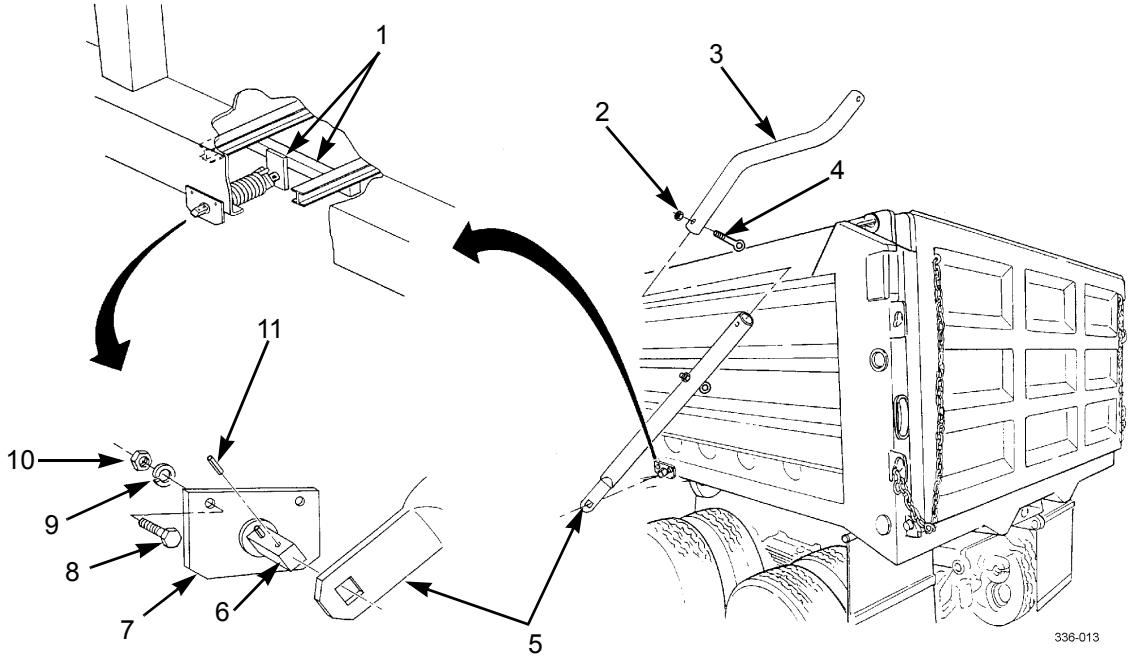
Clean and inspect all components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

c. INSTALLATION

1. Install left mounting bracket (15) on roll-up bar (14). Position roll-up bar on dump body and through right mounting bracket (21).
2. Install three screws (18), new lockwashers (17), and nuts (16) to left mounting bracket (15) and dump body.
3. Loosen set screw (19) at each end of roll-up bar (14) and center bar between left and right mounting brackets (15 and 21). Tighten set screws.
4. Install sprocket alinement key (12) and sprocket (20) on roll-up bar (14). Tighten set screw (13).

4-67. CARGO COVER SUPPORT FRAME AND ROLL-UP BAR REPLACEMENT (Con't).

5. Install spring assembly (7) on dump body and through welded shaft support bar and tube (1) with two screws (8), new lockwashers (9), and nuts (10).
6. Connect swing arm (5) and connecting arm (3) with eyebolt (4) and nut (2).
7. Install swing arm (5) on spring assembly shaft (6). Install new spring pin (11) through shaft.
8. Install one end of rubber strap on connecting arm (3) eyebolt and opposite end on swing arm (5) eyebolt.



FOLLOW-ON TASKS:

- Install cargo cover chain (paragraph 4-66).
- Install cargo cover (paragraph 4-64).
- Check operation of cargo cover (paragraph 2-14).
- Fully retract cargo cover (paragraph 2-14).

4-68. REFLECTOR REPLACEMENT.

This task covers:

a. Removal

b. Cleaning

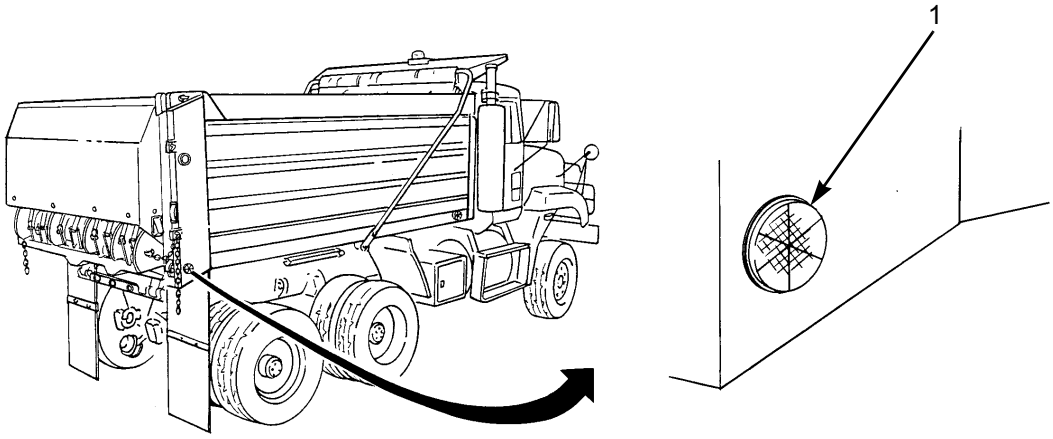
Initial Setup:

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

a. REMOVAL

Remove reflector (1) from dump body or tailgate.



b. CLEANING

Clean reflector mounting surface in accordance with Chapter 4, Section III, *General Maintenance Instructions.*

c. INSTALLATION

Remove backing paper from reflector (1). Install reflector on dump body or tailgate.

4-69. DATA PLATE REPLACEMENT.

This task covers:

a. Removal

b. Installation

Initial Setup:

Tools/Test Equipment:

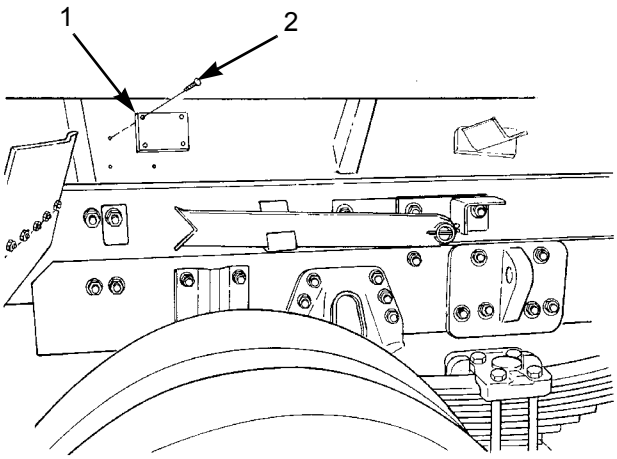
- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Four drive screws

a. REMOVAL

Remove four drive screws (2) and data plate (1) from dump body. Discard drive screws.



b. INSTALLATION

Install data plate (1) on dump body with four new drive screws (2).

4-70. SHOVEL BRACKET REPLACEMENT.

This task covers:

a. Removal

b. Installation

Initial Setup:

Tools/Test Equipment:

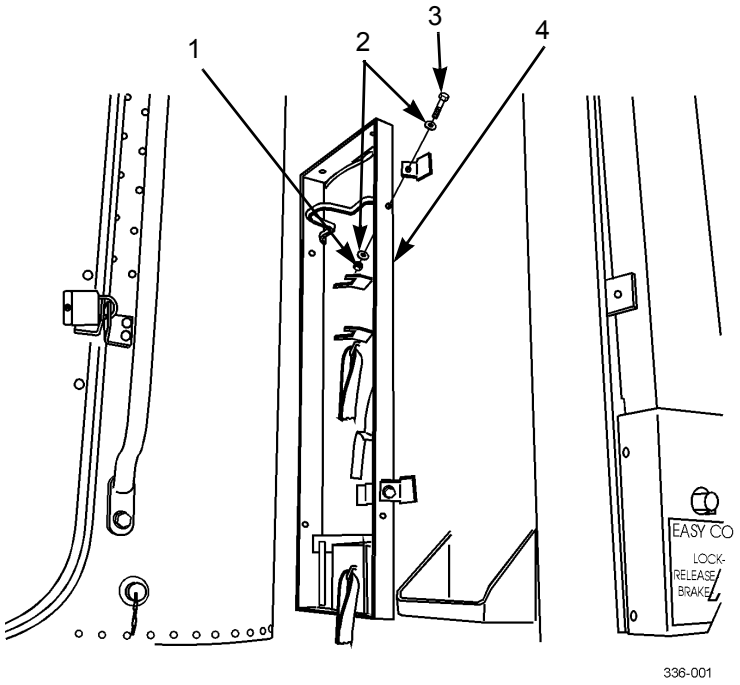
- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Four locknuts

a. REMOVAL

Remove four bolts (3), eight flatwashers (2), four locknuts (1), and shovel bracket (4) from dump body. Discard locknuts.



b. INSTALLATION

Position shovel bracket (4) on dump body and install four bolts (3), eight flatwashers (2), and four new locknuts (1).

4-71. SPILL SHIELD REPLACEMENT.

This task covers:

a. Removal

b. Installation

Initial Setup:

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

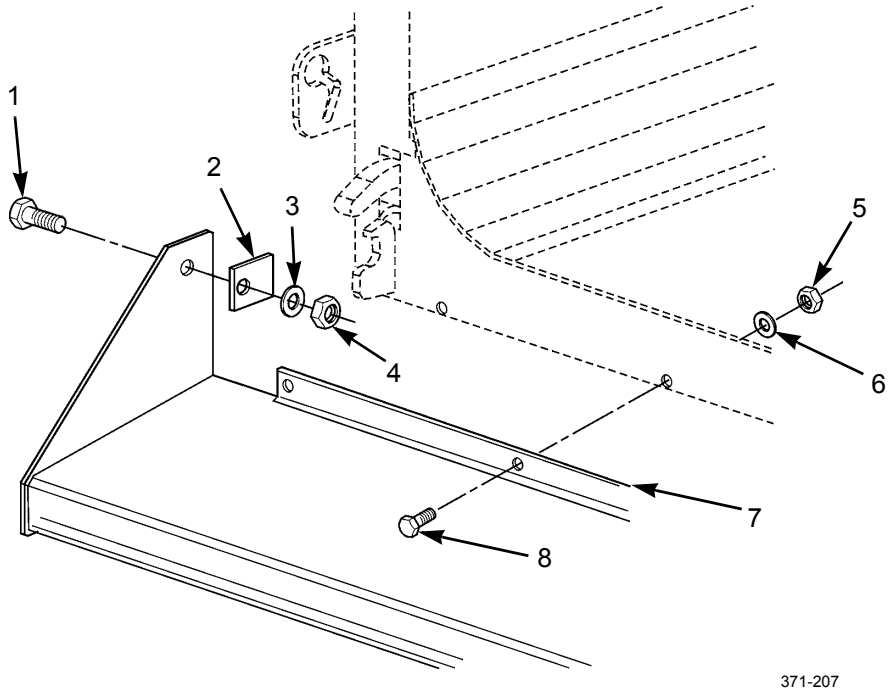
Materials/Parts:

- Eight locknuts

Personnel Required: Two

a. REMOVAL

1. Remove locknut (4), washer (3), bolt (1), and tab (2) from spill shield (7). Discard locknut.
2. Repeat step 1 for opposite side.
3. Remove six locknuts (5), six washers (6), six bolts (8), and spill shield (7). Discard locknuts.



b. INSTALLATION

1. Position spill shield (7) on dump body and install six bolts (8), six washers (6), and six new locknuts (5).
2. Position tab (2) on spill shield (7) and install bolt (1), washer (3), and new locknut (4).
3. Repeat step 2 for opposite side.

Section IX. HYDRAULIC SYSTEM MAINTENANCE

Paragraph Number	Paragraph Title	Page Number
4-72.	Hydraulic Control Lever Replacement	4-117
4-73.	Hydraulic Control Lever Cable Replacement	4-127
4-74.	Hydraulic Hoses and Fittings Replacement	4-136
4-75.	Hydraulic Reservoir Replacement	4-140
4-76.	Hydraulic Reservoir Repair	4-143
4-77.	Hydraulic Oil Filter Element Replacement	4-145
4-78.	Hydraulic Oil Filter Service Indicator Gage Replacement	4-147

4-72. HYDRAULIC CONTROL LEVER REPLACEMENT.

This task covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- CTIS electronic control unit (ECU) removed (TM 9-2320-363-20 or TM 9-2320-302-20).
- MCS control unit removed (M917A1 w/MCS) (paragraph 4-42).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I).

Materials/Parts:

- Marker tags (Item 20, Appendix F)
- Six lockwashers

References:

- TM 9-2320-363-10
- TM 9-2320-302-10

NOTE

Although slightly different in shape, M917A1 and M917A2 shift towers are similar. M917A1 shift tower is illustrated. Perform only those steps that apply to your model.

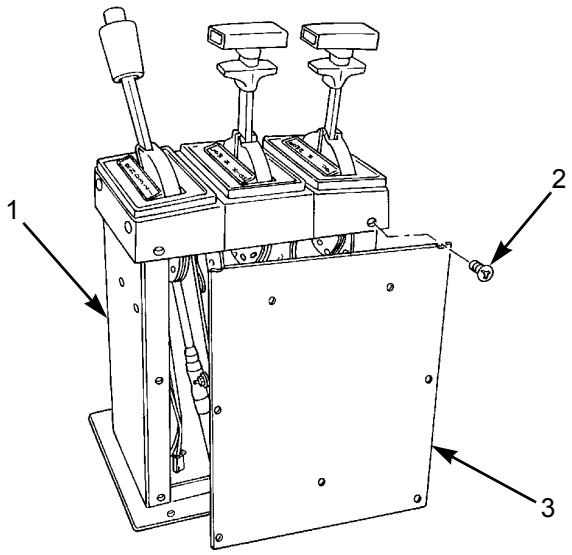
a. REMOVAL

NOTE

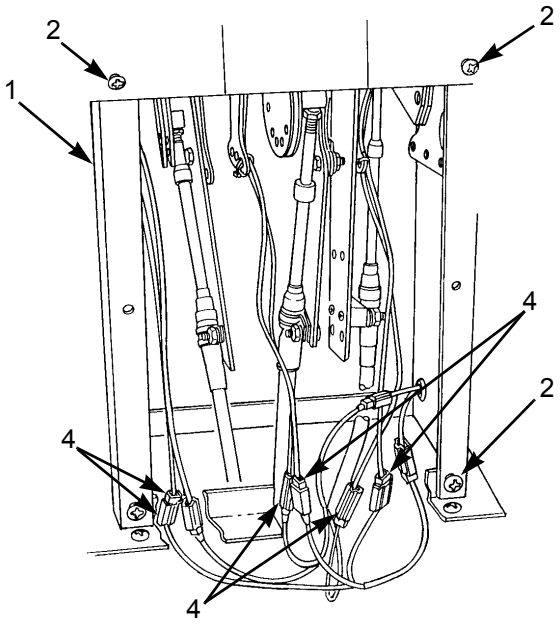
Wires and cables should be tagged before removal (paragraph 4-17).

4-72. HYDRAULIC CONTROL LEVER REPLACEMENT (Con't).

1. Remove six screws (2) and rear access panel (3) from shift tower (1).
2. Repeat step 1 for front access panel.



3. To keep shift tower (1) rigid, reinstall two top and two bottom screws (2) on front and rear of shift tower (1).
4. Disconnect six connectors (4) from shift tower jumper harness connectors.

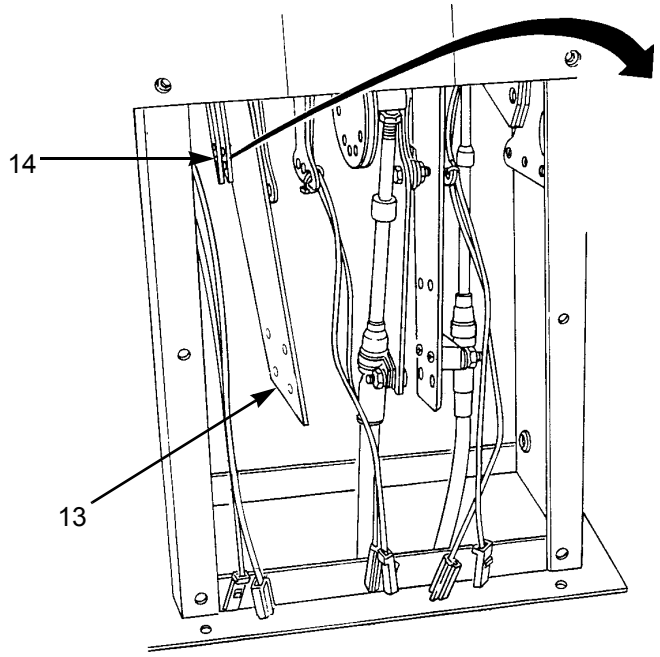


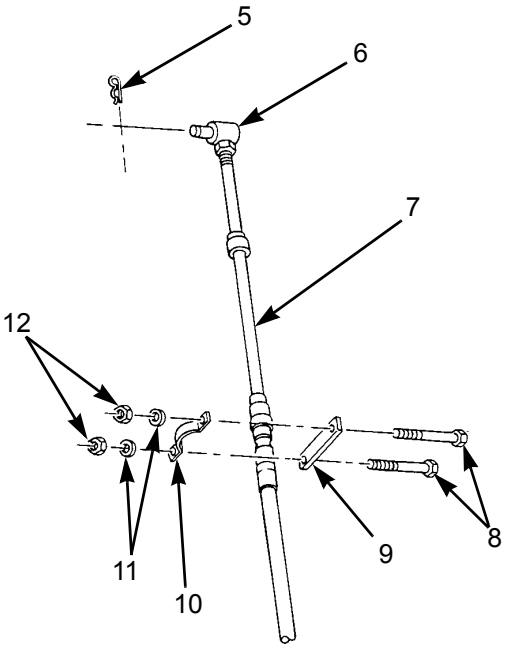
4-72. HYDRAULIC CONTROL LEVER REPLACEMENT (Con't).

NOTE

To ease installation, note mounting position of cable pivot pins and hold-down clamps prior to disconnecting cables.

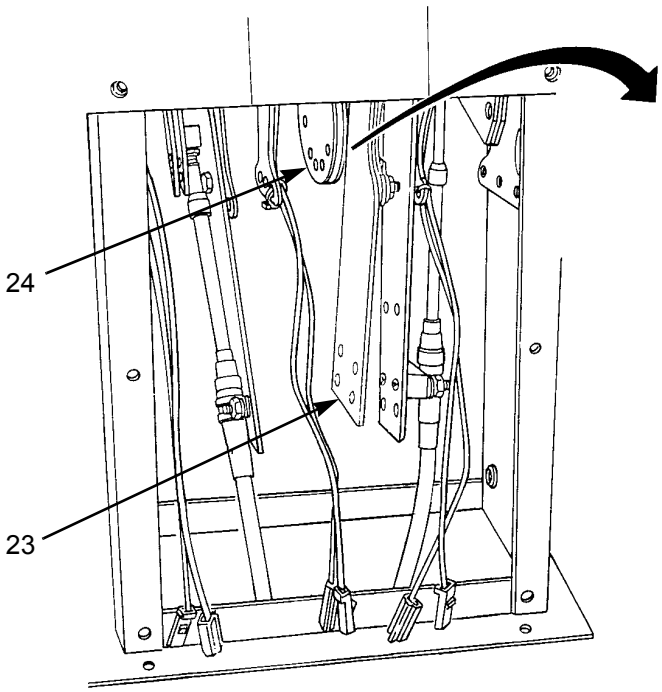
5. Place transmission selector lever in D (Drive) position (TM 9-2320-363-10 or TM 9-2320-302-10)).
6. Tag transmission shift cable (7).
7. Remove two nuts (12), lockwashers (11), screws (8), clamp (10), and spacer (9) from bracket (13). Discard lockwashers.
8. Remove retaining pin (5) from pivot pin (6) and pivot pin from bracket (14).

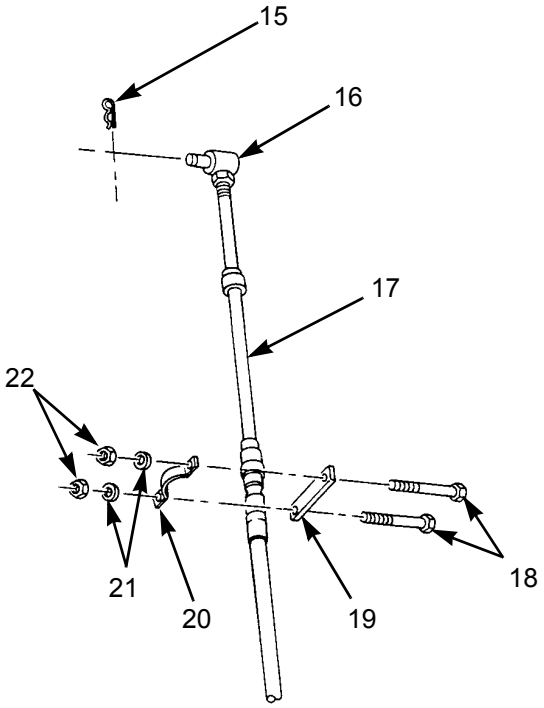




4-72. HYDRAULIC CONTROL LEVER REPLACEMENT (Con't).

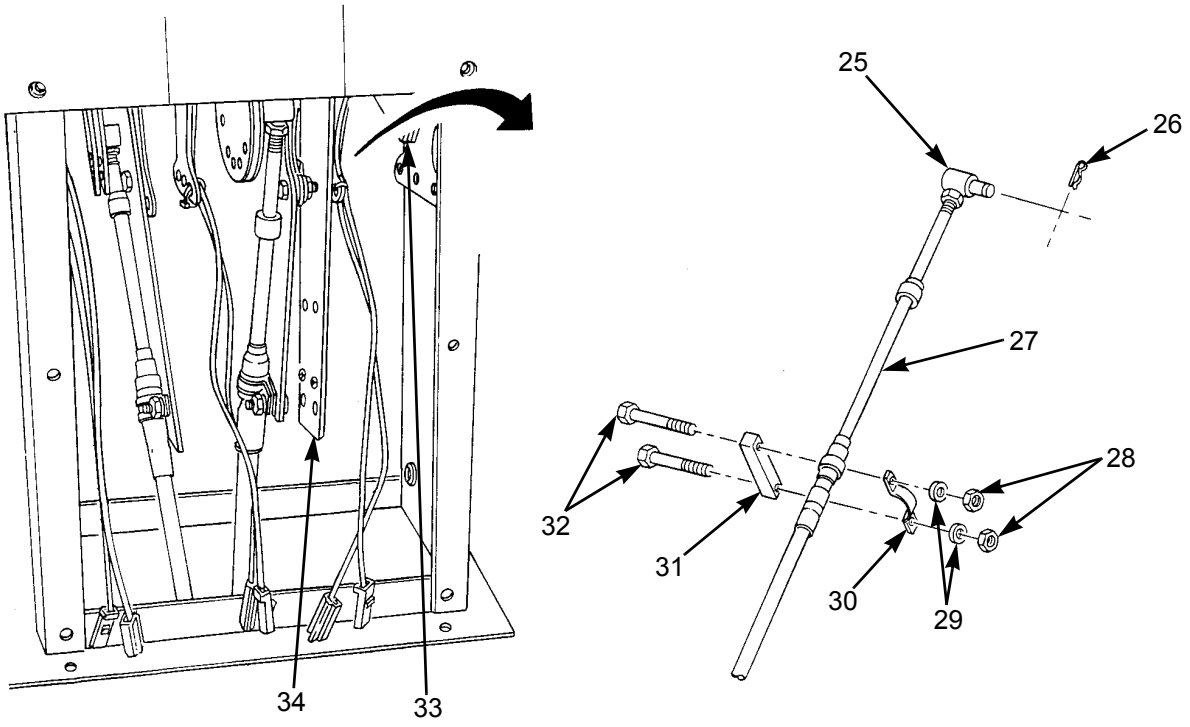
9. Place transfer case selector lever in N (Neutral) position (TM 9-2320-363-10 or TM 9-2320-302-10).
10. Tag transfer case shift cable (17).
11. Remove two nuts (22), lockwashers (21), screws (18), clamp (20), and spacer (19) from bracket (23). Discard lockwashers.
12. Remove retaining pin (15) from pivot pin (16) and pivot pin from bracket (24).





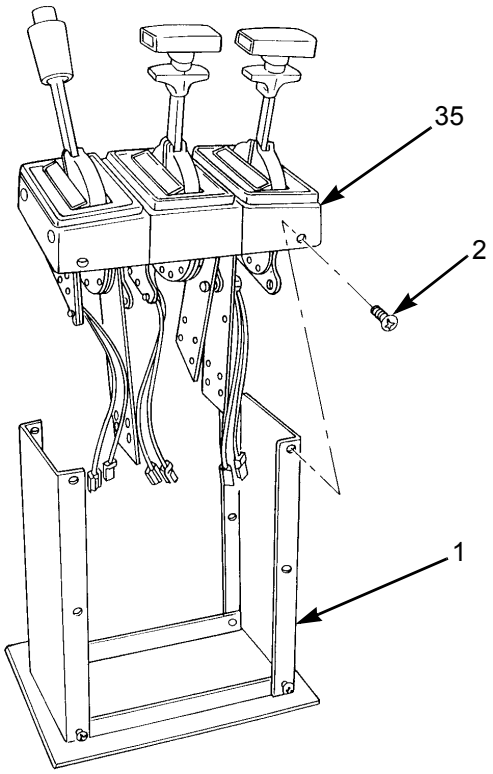
4-72. HYDRAULIC CONTROL LEVER REPLACEMENT (Con't).

13. Place hydraulic control lever in DOWN position (paragraph 2-1).
14. Tag hydraulic control cable (27).
15. Remove two nuts (28), lockwashers (29), screws (32), clamp (30), and spacer (31) from bracket (34). Discard lockwashers.
16. Remove retaining pin (26) from pivot pin (25) and pivot pin from bracket (33).

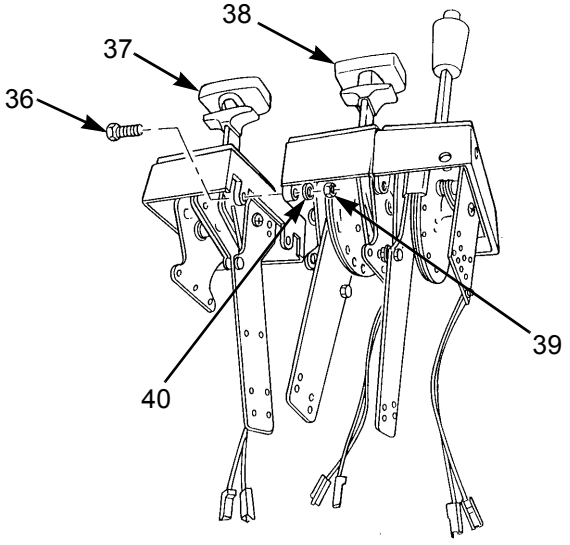


4-72. HYDRAULIC CONTROL LEVER REPLACEMENT (Con't).

17. Remove two top screws (2) from front and rear of shift tower (1).
18. Lift handle assemblies (35) from shift tower (1).



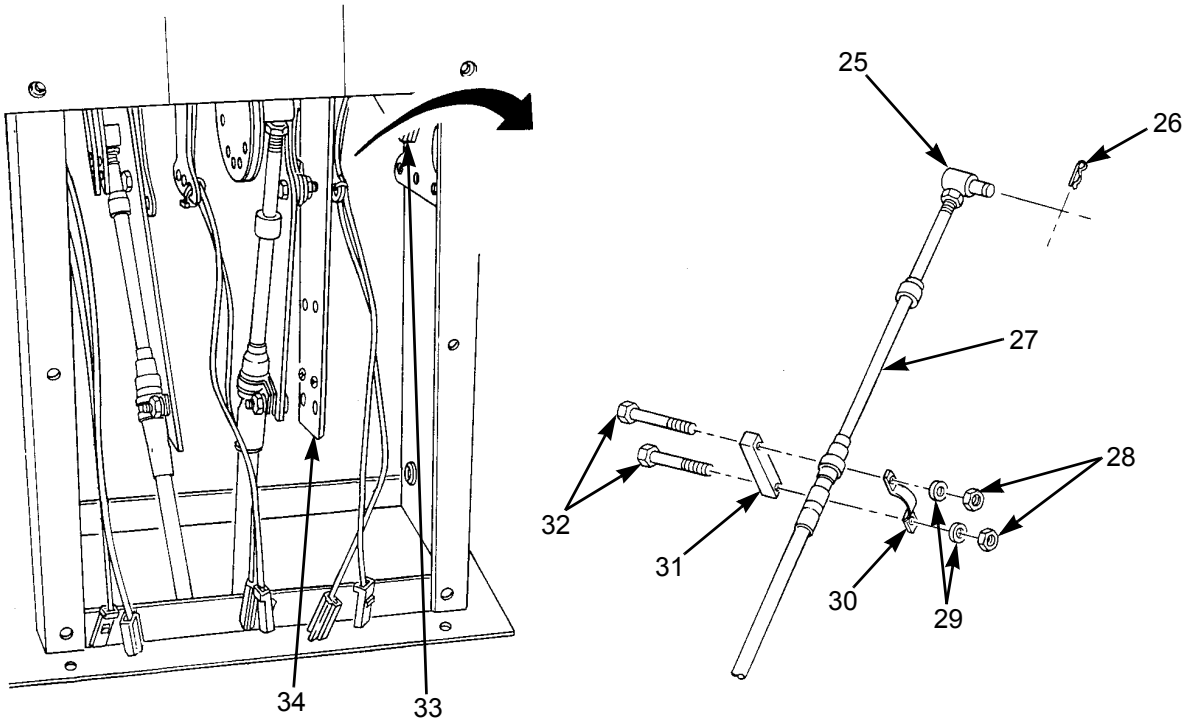
19. Separate hydraulic control lever (37) from transfer case selector lever (38) by removing two bolts (36), flatwashers (40), and nuts (39).



4-72. HYDRAULIC CONTROL LEVER REPLACEMENT (Con't).

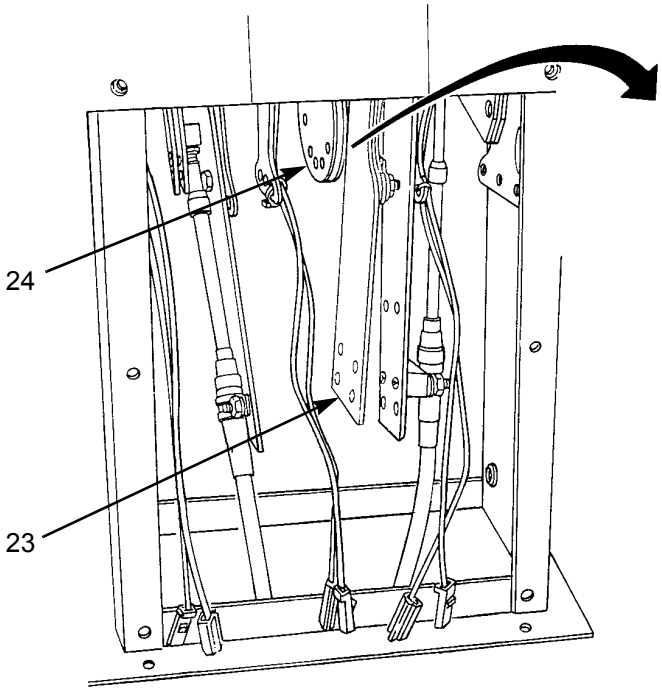
b. INSTALLATION

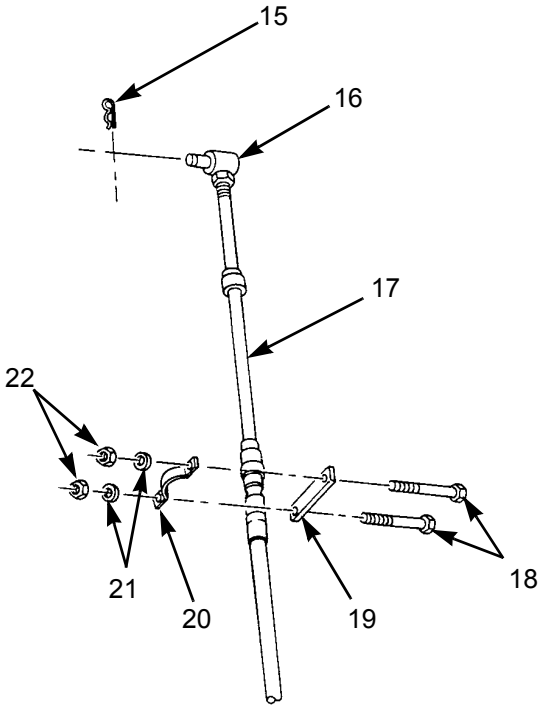
1. Install hydraulic control lever (37) to transfer case selector lever (38) with two bolts (36), flatwashers (40), and nuts (39).
2. Position handle assemblies (35) on shift tower (1).
3. To keep shift tower (1) rigid, install two top screws (2) on front and rear of shift tower.
4. With hydraulic control lever in DOWN position, install hydraulic control cable pivot pin (25) in bracket (33) and secure with retaining pin (26).
5. Install spacer (31), cable (27), clamp (30), two screws (32), new lockwashers (29), and nuts (28) to bracket (34).
6. Place hydraulic control lever in N (Neutral) position (paragraph 2-1).



4-72. HYDRAULIC CONTROL LEVER REPLACEMENT (Con't).

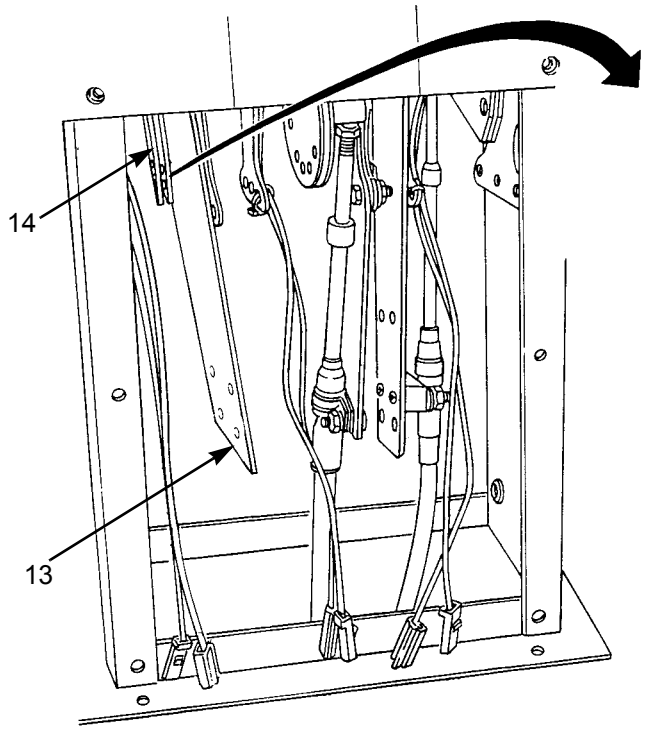
7. Install transfer case control cable pivot pin (16) in bracket (24) and secure with retaining pin (15).
8. Install spacer (19), cable (17), clamp (20), two screws (18), new lockwashers (21), and nuts (22) to bracket (23).

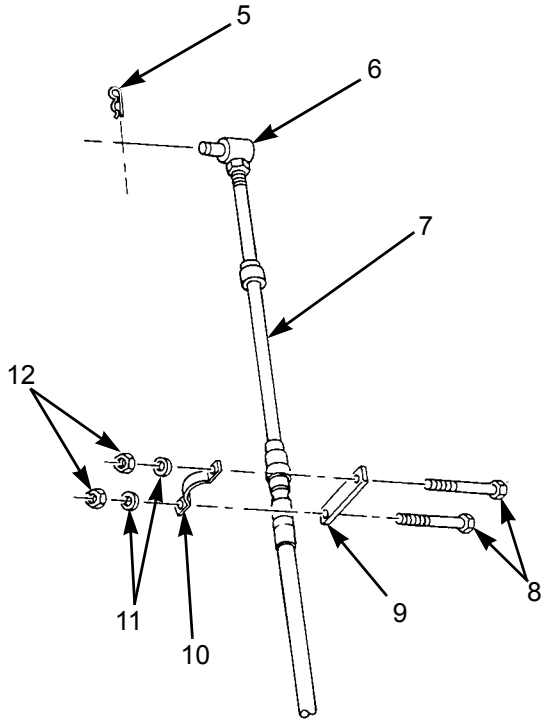




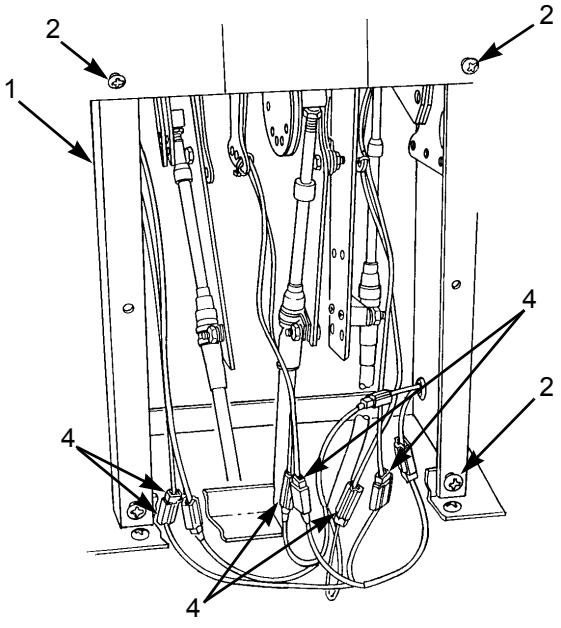
9. With transmission selector lever in D (Drive) position, install transmission control cable pivot pin (6) in bracket (14) and secure with retaining pin (5).
10. Install spacer (9), cable (7), clamp (10), two screws (8), new lockwashers (11), and nuts (12) to bracket (13).

4-72. HYDRAULIC CONTROL LEVER REPLACEMENT (Con't).



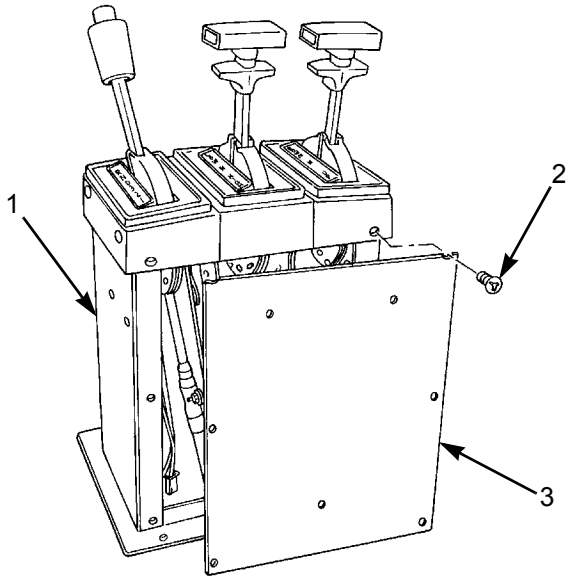


11. Place transmission selector lever in N (Neutral) position (TM 9-2320-363-10 or TM 9-2320-302-10).
12. Connect six connectors (4) to shift tower jumper harness connectors.
13. Remove two top and two bottom screws (2) on front and rear of shift tower (1).



4-72. HYDRAULIC CONTROL LEVER REPLACEMENT (Con't).

14. Install rear access panel (3) and six screws (2).
15. Repeat step 14 for front access panel.



FOLLOW-ON TASKS:

- Install MCS control unit (M917A1 w/MCS) (paragraph 4-42).
- Install CTIS electronic control unit (ECU) (TM 9-2320-363-20 or TM 9-2320-302-20).

4-73. HYDRAULIC CONTROL LEVER CABLE REPLACEMENT.

This task covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Wheels blocked (TM 9-2320-363-10 or TM 9-2320-302-10).
- CTIS electronic control unit (ECU) removed (TM 9-2320-363-20 or TM 9-2320-302-20).
- MCS control unit removed (M917A1 w/MCS) (paragraph 4-42).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)

Materials/Parts:

- Marker tags (Item 20, Appendix F)
- One cotter pin
- Eight lockwashers

References:

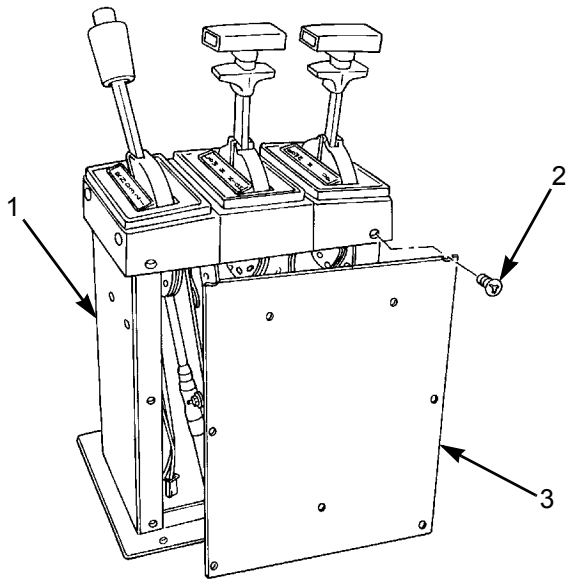
- TM 9-2320-363-10
- TM 9-2320-302-10
- TM 9-2320-363-20
- TM 9-2320-302-20

NOTE

Although slighty different in shape, M917A1 and M917A2 shift towers are similar. M917A1 shift tower is shown. Perform only those steps that apply to your model.

a. REMOVAL

1. Remove six screws (2) and rear access panel (3) from shift tower (1).
2. Repeat step 1 to remove front access panel from shift tower.
3. To keep shift tower rigid, reinstall two top and two bottom screws (2) on front and rear of shift tower (1).



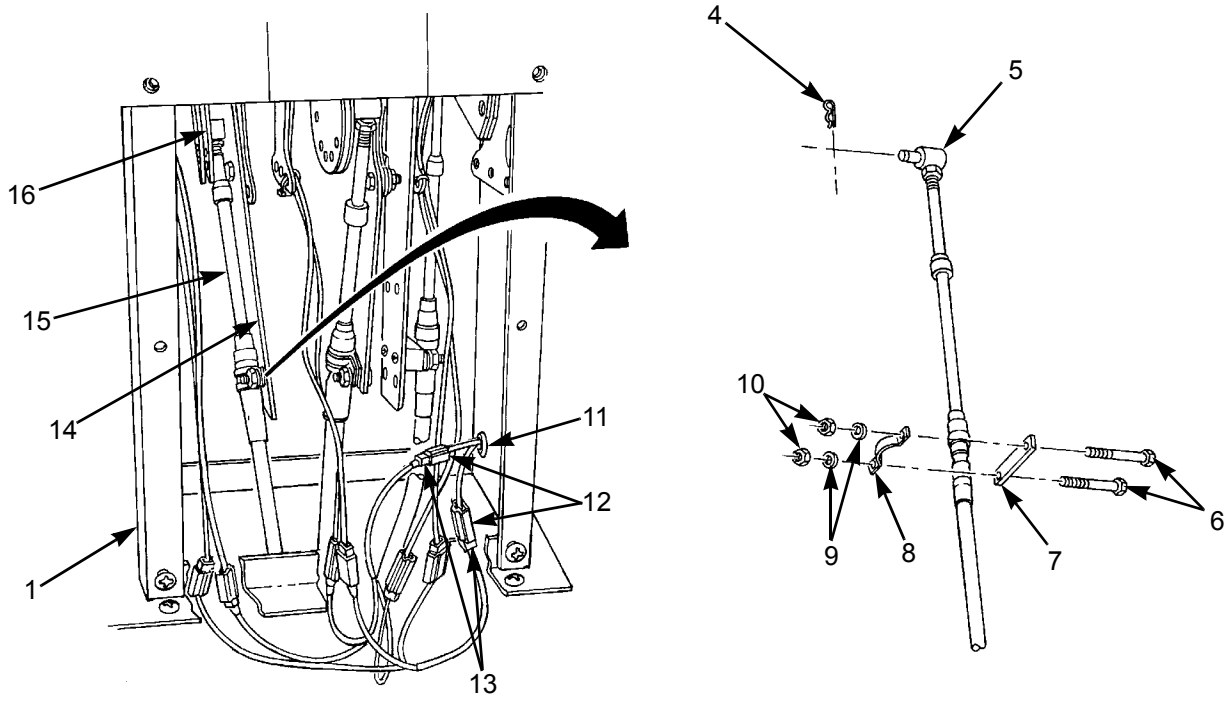
4-73. HYDRAULIC CONTROL LEVER CABLE REPLACEMENT (Con't).

4. Tag and disconnect shift tower jumper harness power and ground connectors (13) from cab harness power and ground connectors (12).
5. Remove grommet (11) and cab harness power and ground connectors (12) from shift tower (1).

NOTE

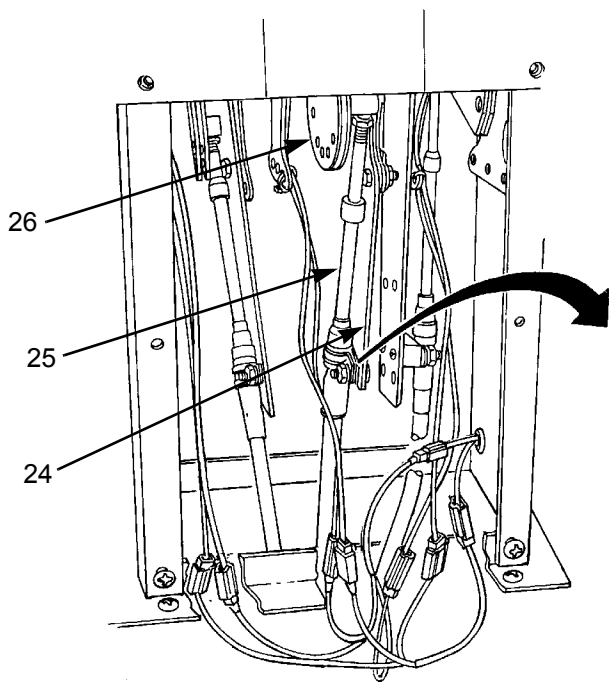
To ease installation, note mounting position of cable pivot pins and hold-down clamps prior to disconnecting cables.

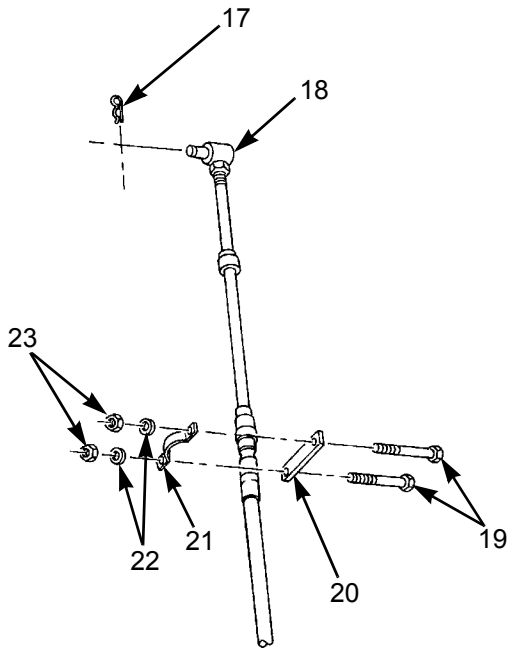
6. Place transmission selector lever in D (Down) position (TM 9-2320-363-10 or TM 9-2320-302-10).
7. Tag transmission shift cable (15).
8. Remove two nuts (10), lockwashers (9), screws (6), clamp (8), and spacer (7) from bracket (14). Discard lockwashers.
9. Remove retaining pin (4) from pivot pin (5) and pivot pin from bracket (16).



4-73. HYDRAULIC CONTROL LEVER CABLE REPLACEMENT (Con't).

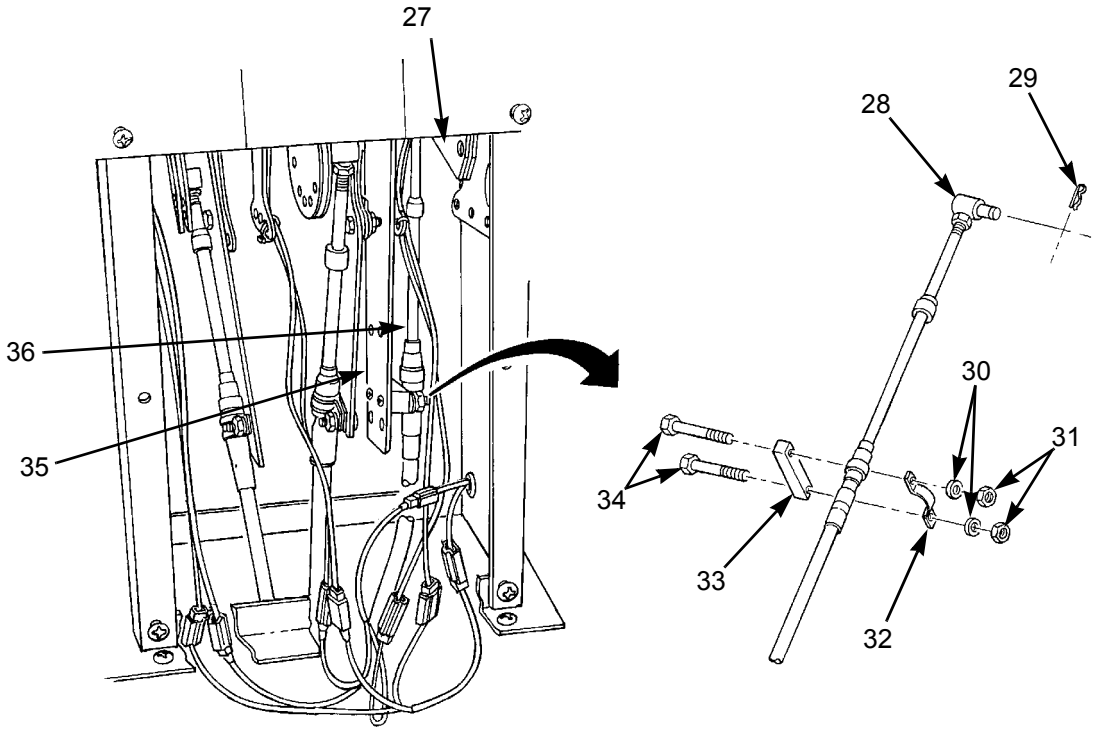
10. Place transfer case selector lever in N (Neutral) position (TM 9-2320-363-10 or TM 9-2320-302-10).
11. Tag transfer case shift cable (25).
12. Remove two nuts (23), lockwashers (22), screws (19), clamp (21), and spacer (20) from bracket (24). Discard lockwashers.
13. Remove retaining pin (17) from pivot pin (18) and pivot pin from bracket (26).





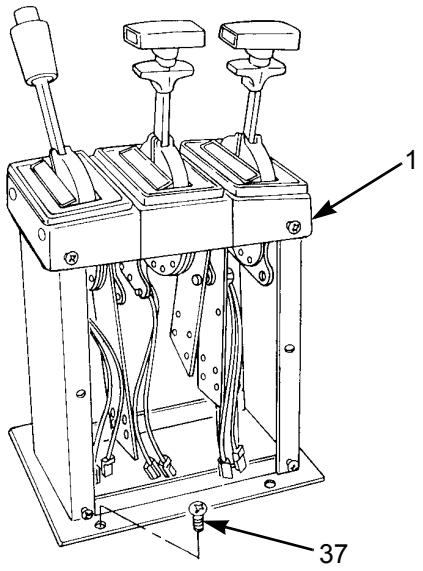
4-73. HYDRAULIC CONTROL LEVER CABLE REPLACEMENT (Con't).

14. Place hydraulic control lever in DOWN position (paragraph 2-1).
15. Tag hydraulic control lever cable (36).
16. Remove two nuts (31), lockwashers (30), screws (34), clamp (32), and spacer (33) from bracket (35). Discard lockwashers.
17. Remove retaining pin (29) from pivot pin (28) and pivot pin from bracket (27).

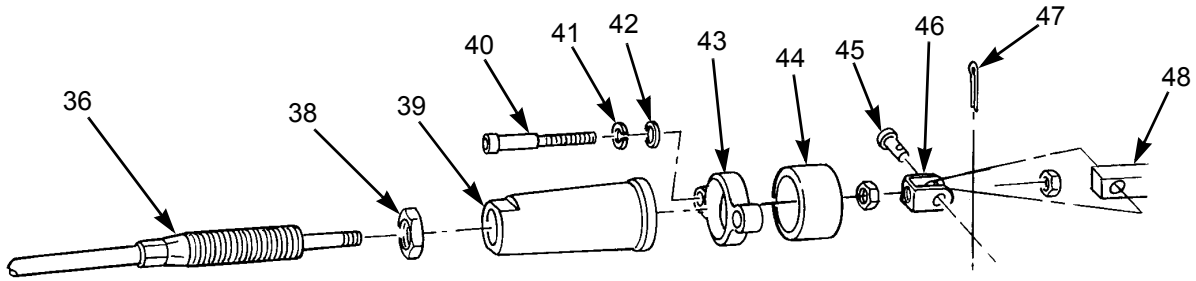


4-73. HYDRAULIC CONTROL LEVER CABLE REPLACEMENT (Con't).

18. Remove four screws (37) and shift tower (1) from cab floor.
19. Remove transmission tunnel access cover (TM 9-2320-363-20 or TM 9-2320-302-20).



20. At hydraulic pump, turn jam nut (38) over entire length of threads on cable (36).
21. Remove two screws (40), flatwashers (42), and lockwashers (41) from flange clamp (43). Discard lockwashers.
22. Slide flange clamp (43) away from bonnet (39).
23. Unscrew bonnet (39) and slide spacer (44) along cable (36) until cable bracket (46) can be accessed.
24. Remove cotter pin (47) and clevis pin (45) from hydraulic pump actuator (48). Discard cotter pin.

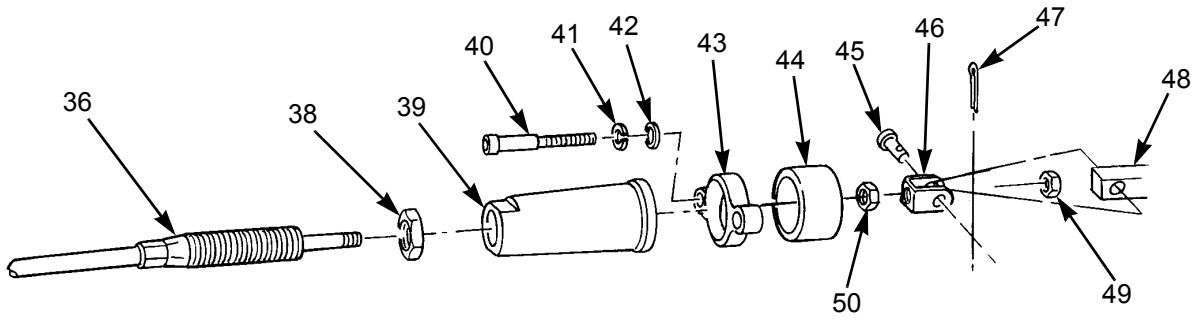


4-73. HYDRAULIC CONTROL LEVER CABLE REPLACEMENT (Con't).

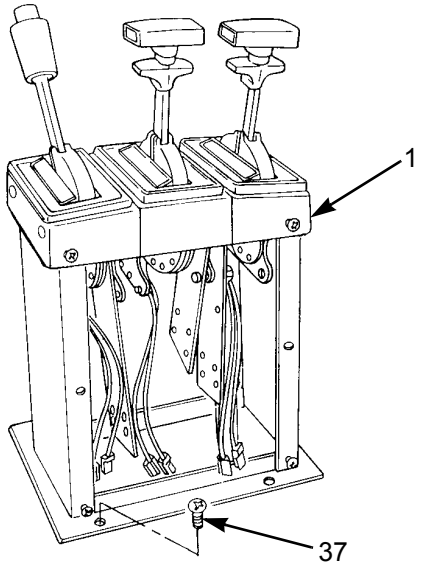
25. Remove nut (49) and cable bracket (46).
26. Count number of threads from end of cable (36) to nut (50).
27. Remove nut (50).

b. INSTALLATION

1. Install nut (50) onto cable (36) same number of threads as removal.
2. Slide cable bracket (46) onto cable (36) and install nut (49).
3. Position cable bracket (46) onto hydraulic pump actuator (48) and install clevis pin (45) and new cotter pin (47).
4. Slide spacer (44), screw bonnet (39), and slide flange clamp (43) over cable bracket (46).
5. Install two screws (40), flatwashers (42), and new lockwashers (41) to flange clamp (43).
6. Slide jam nut (38) onto cable (36).
7. Tighten jam nut (38) against flange clamp (43).
8. Install transmission tunnel access cover (TM 9-2320-363-20 or TM 9-2320-302-20).

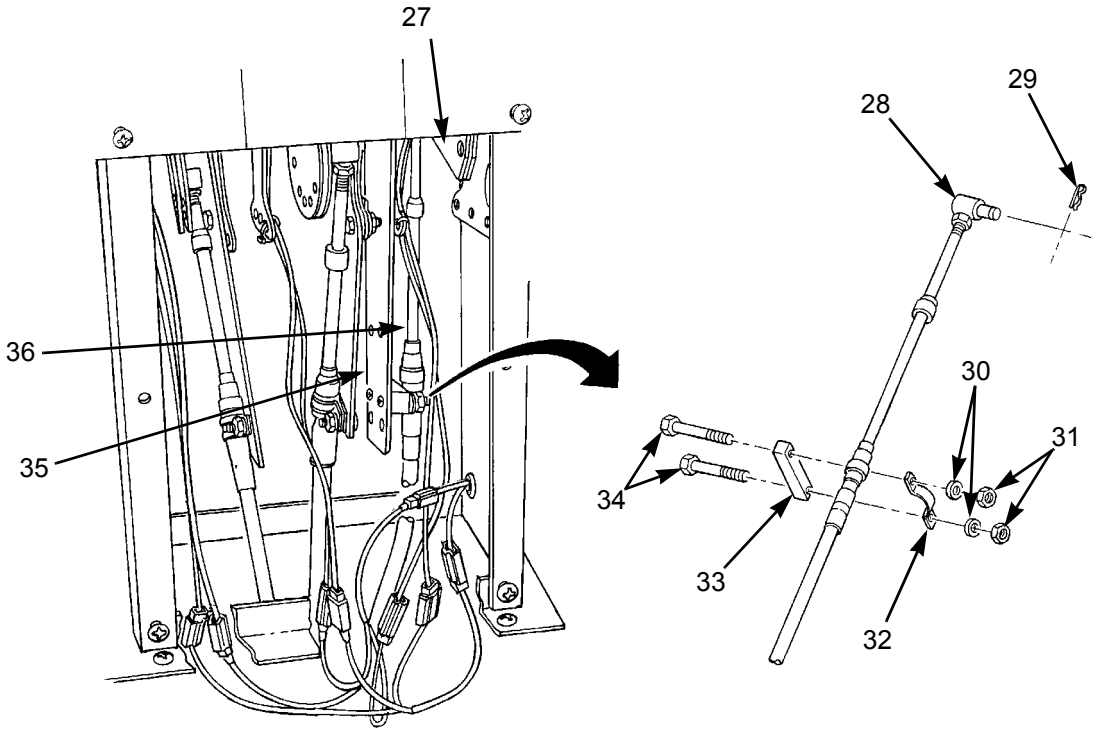


9. Install four screws (37) securing shift tower (1) to cab floor.



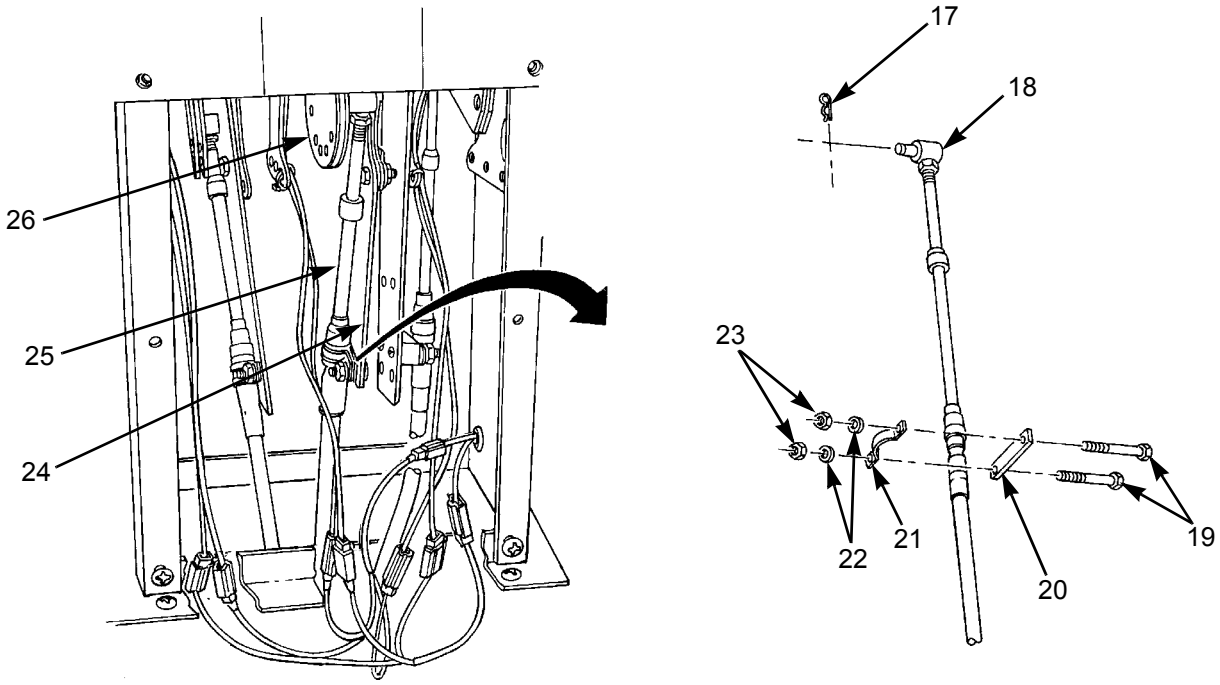
4-73. HYDRAULIC CONTROL LEVER CABLE REPLACEMENT (Con't).

10. Install spacer (33), hydraulic control lever cable (36), clamp (32), two screws (34), new lockwashers (30), and nuts (31) to bracket (35).
11. Place hydraulic control lever in DOWN position (paragraph 2-1).
12. By hand, push end of cable (36) in as far as it will go and install pivot pin (28) in same hole in bracket (27) as removed. If this cannot be achieved, perform step 14.
13. Release hand pressure from cable (36). Force of hydraulic pump actuator will cause hydraulic control lever to N (Neutral) position.
14. Loosen nut at pivot pin (28) and rotate pivot pin in desired direction. Tighten nut.
15. Repeat steps 12 thru 14 until pivot pin (28) can be installed in same hole in bracket (27) as removed with cable (36) pushed in all the way. Install retaining pin (29).



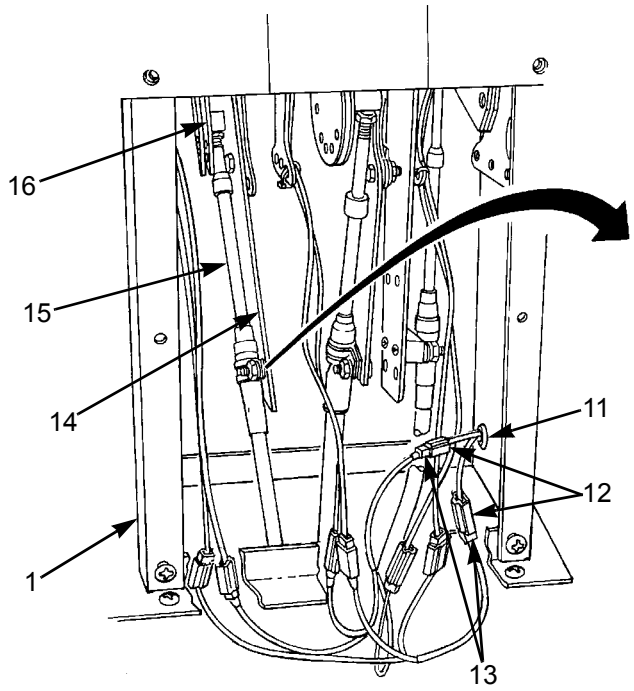
4-73. HYDRAULIC CONTROL LEVER CABLE REPLACEMENT (Con't).

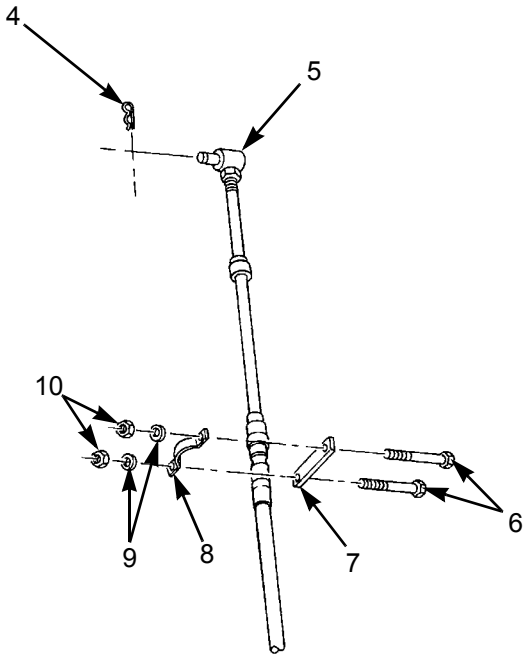
16. With transfer case selector lever in N (Neutral) position, install pivot pin (18) in bracket (26) and secure with retaining pin (17). Remove tag from cable (25).
17. Install spacer (20), cable (25), clamp (21), two screws (19), new lockwashers (22), and nuts (23) to bracket (24).



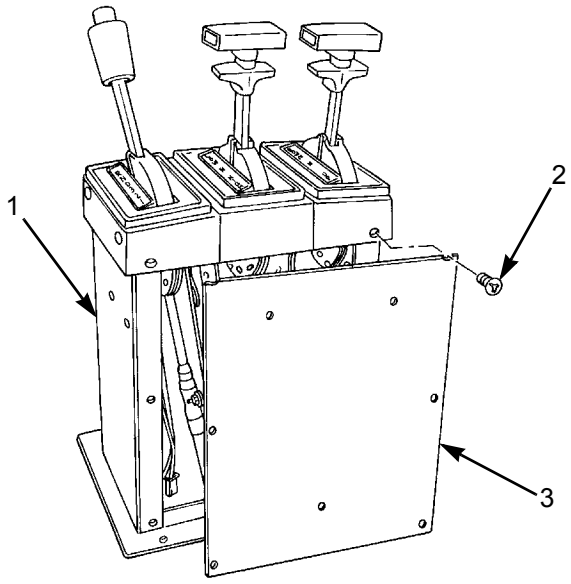
18. With transmission selector lever in D (Down) position, install pivot pin (5) in bracket (16) and secure with retaining pin (4). Remove tag from cable (15).
19. Install spacer (7), cable (15), clamp (8), two screws (6), new lockwashers (9), and nuts (10) to bracket (14).
20. Place transmission selector lever in N (Neutral) position (TM 9-2320-363-10 or TM 9-2320-302-10).
21. Feed cab harness power and ground connectors (12) into shift tower (1) and install grommet (11).
22. Connect shift tower jumper harness power and ground connectors (13) to cab harness power and ground connectors (12). Remove tags.

4-73. HYDRAULIC CONTROL LEVER CABLE REPLACEMENT (Con't).





23. Remove two top and two bottom screws (2) from front and rear of shift tower (1).
24. Install six screws (2) and rear access panel (3).
25. Repeat step 24 for front access panel.



FOLLOW-ON TASKS:

- Install MCS control unit (M917A1 w/MCS) (paragraph 4-42).
- Install CTIS electronic control unit (ECU) (TM 9-2320-363-20 or TM 9-2320-302-20).

4-74. HYDRAULIC HOSES AND FITTINGS REPLACEMENT.

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Dump body raised and supported on body props (paragraph 2-15).
- Hydraulic oil drained (Appendix J).
- Transmission tunnel access cover removed (TM 9-2320-363-20 or TM 9-2320-302-20).

Materials/Parts:

- Rags (Item 16, Appendix F)
- Marker tags (Item 20, Appendix F)
- Antiseize tape (Item 21, Appendix F)
- Tie wraps (Item 19, Appendix F)

Tools/Test Equipment:

- Cap and plug set (Item 1, Appendix I)
- General mechanic's tool kit (Item 8, Appendix I)
- Adjustable wrench (Item 10, Appendix I)

General Safety Instructions:

- NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY.
- DO NOT disconnect hydraulic lines while engine is running.

WARNING

- **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.**
- **DO NOT disconnect hydraulic lines while engine is running. Engine must be shut down and dump body fully lowered or supported on body props before lines are disconnected. Escaping hydraulic fluid under pressure can penetrate the skin, causing serious injury to personnel.**

a. REMOVAL

CAUTION

Hoses and ports in hydraulic components should be plugged to prevent contamination of hydraulic system (paragraph 4-21).

NOTE

- **Hoses should be tagged before removal (paragraph 4-17).**
- **Use a suitable container to catch any draining hydraulic fluid. Ensure that all spills are cleaned up.**
- **Remove hose support clamps and tie wraps as necessary.**
- **Perform steps 1 thru 3 to remove suction hose and fittings.**

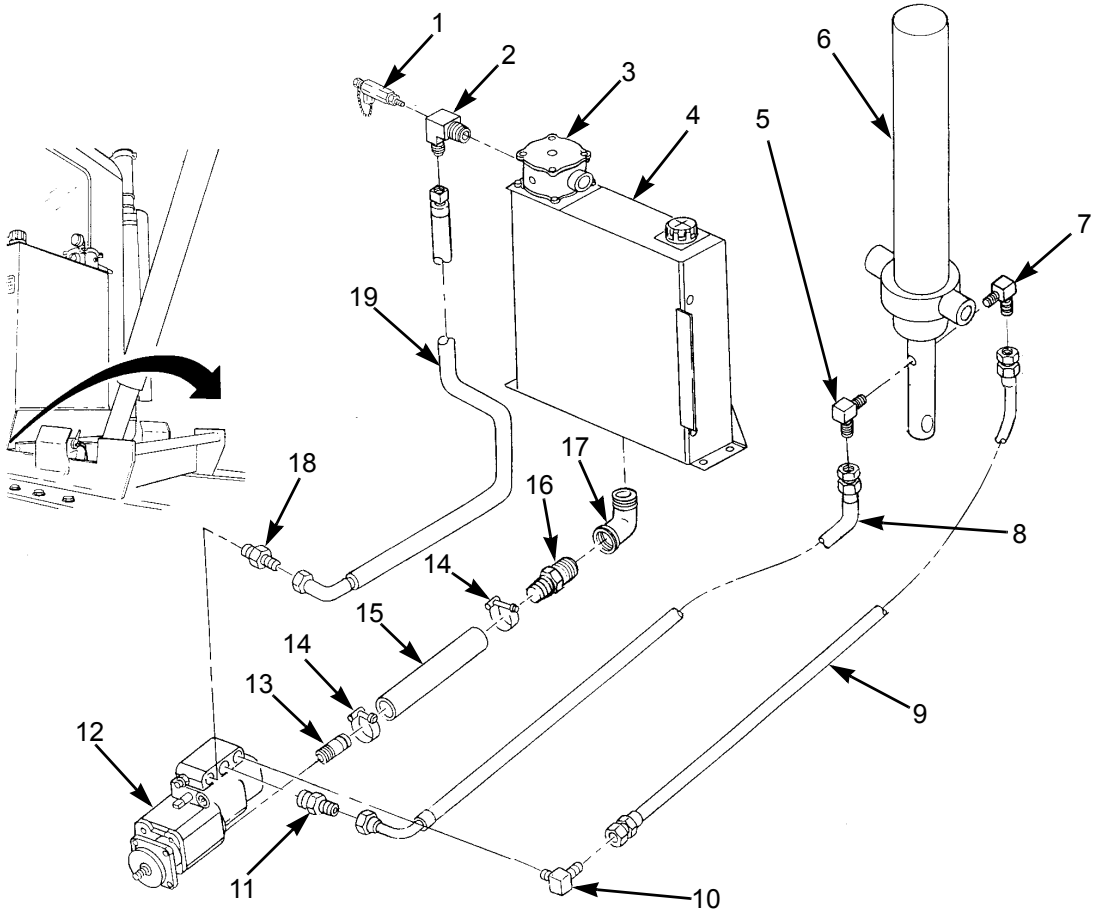
4-74. HYDRAULIC HOSES AND FITTINGS REPLACEMENT (Con't).

1. Loosen two clamps (14) and remove suction hose (15) and two clamps from adapter (13) and hose barb (16).
2. Remove adapter (13) from hydraulic pump (12).
3. Remove hose barb (16) and elbow (17) from bottom of hydraulic reservoir (4).

NOTE

Perform steps 4 thru 7 to remove return hose and fittings.

4. Remove return hose (19) from adapter (18) and tee (2).
5. Remove adapter (18) from hydraulic pump (12).
6. Remove oil sampling valve (1) from tee (2).
7. Remove tee (2) from filter housing (3).



NOTE

Perform steps 8 thru 11 to remove two hydraulic cylinder hoses and fittings.

8. Remove hose (8) from adapter (11) and elbow (5).
9. Remove hose (9) from elbow (10) and elbow (7).
10. Remove adapter (11) and elbow (10) from hydraulic pump (12).
11. Remove elbow (5) and elbow (7) from hydraulic cylinder (6).

4-74. HYDRAULIC HOSES AND FITTINGS REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

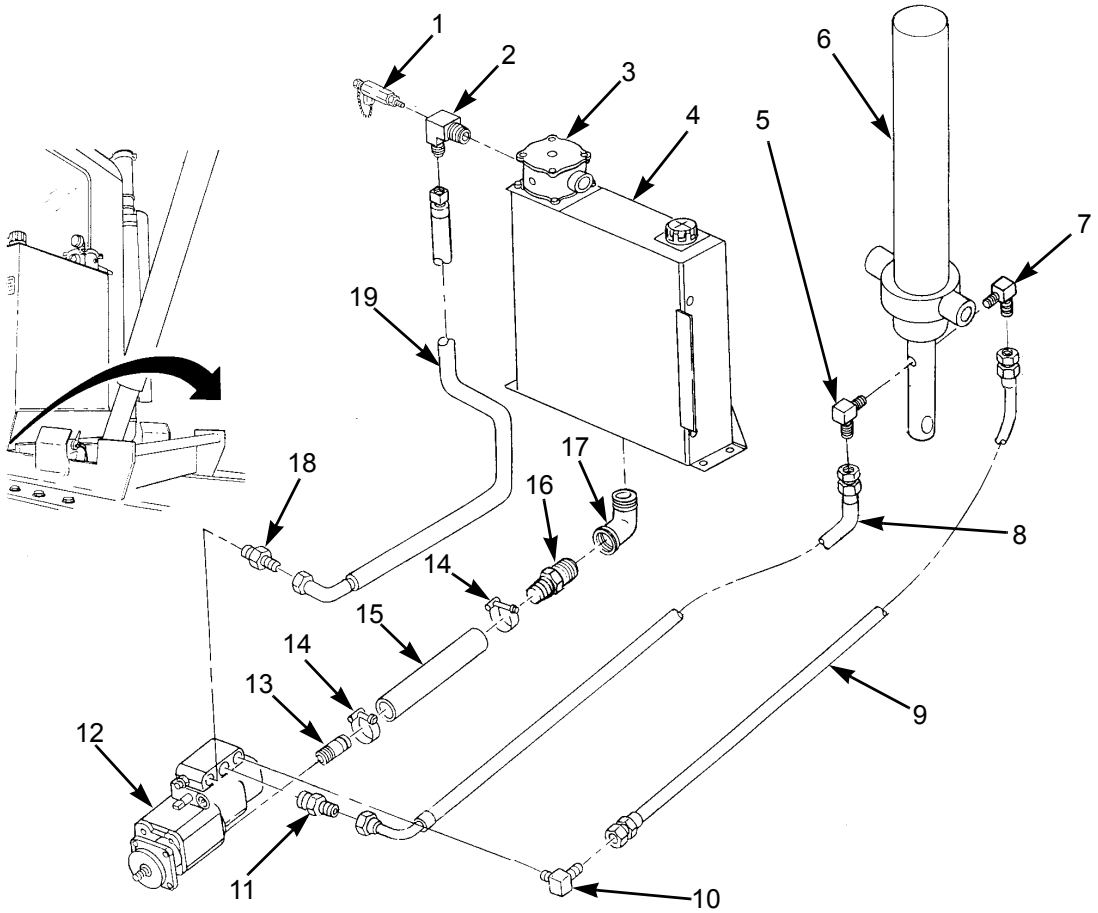
Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

c. INSTALLATION

NOTE

- **Use antiseize tape on all pipe threads (paragraph 4-22).**
- **Install hose support clamps and new tie wraps as necessary.**
- **Perform steps 1 thru 4 to install two hydraulic cylinder hoses and fittings.**

1. Install elbow (5) and elbow (7) to hydraulic cylinder (6).
2. Install elbow (10) and adapter (11) to hydraulic pump (12).
3. Install hose (9) to elbow (7) and elbow (10).
4. Install hose (8) to adapter (11) and elbow (5).



4-74. HYDRAULIC HOSES AND FITTINGS REPLACEMENT (Con't).

NOTE

Perform steps 5 thru 7 to install suction hose.

5. Install elbow (17) and hose barb (16) to bottom of hydraulic reservoir (4).
6. Install adapter (13) to hydraulic pump (12).
7. Install suction hose (15) and two clamps (14) to adapter (13) and hose barb (16). Tighten clamps.

NOTE

Perform steps 8 thru 11 to install return hose and fittings.

8. Install tee (2) on filter housing (3).
9. Install oil sampling valve (1) on tee (2).
10. Install adapter (18) to hydraulic pump (12).
11. Install return hose (19) to adapter (18) and tee (2).

FOLLOW-ON TASKS:

- Install transmission tunnel access cover (TM 9-2320-363-20 or TM 9-2320-302-20).
- Fill hydraulic reservoir (Chapter 3, Section I).
- Remove body props and lower dump body (paragraph 2-15).

4-75. HYDRAULIC RESERVOIR REPLACEMENT.

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Dump body raised and supported on body props (paragraph 2-15).
- Hydraulic oil drained (Chapter 3, Section I).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)
- Cap and plug set (Item 1, Appendix I)
- Nylon sling (Item 6, Appendix I)
- Adjustable wrench (Item 10, Appendix I)
- Torque wrench (Item 11, Appendix I)
- Suitable lifting device

Materials/Parts:

- Rags (Item 16, Appendix F)
- Antiseize tape (Item 21, Appendix F)
- Four locknuts
- Four lockwashers

Personnel Required: Two

General Safety Instructions:

- NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY.
- DO NOT disconnect hydraulic lines while engine is running.
- Use extreme caution when handling heavy parts.

WARNING

- **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.**
- **DO NOT disconnect hydraulic lines while engine is running. Engine must be shut down and dump body fully lowered or supported on body props before lines are disconnected. Escaping hydraulic fluid under pressure can penetrate the skin, causing serious injury to personnel.**

a. REMOVAL

CAUTION

Hoses and ports in hydraulic components should be plugged to prevent contamination of hydraulic system (paragraph 4-21).

NOTE

- **Hoses should be tagged before removal (paragraph 4-17).**
- **Use a suitable container to catch any draining hydraulic fluid. Ensure that all spills are cleaned up.**

1. Disconnect hydraulic return hose (4) from tee (2).

4-75. HYDRAULIC RESERVOIR REPLACEMENT (Con't).

2. Remove tee (2) with oil sampling valve (3) from filter housing (1).

3. Loosen clamp (10) and disconnect suction hose (11) from hose barb (12).

4. Remove hose barb (12) and elbow (13) from hydraulic reservoir (15).

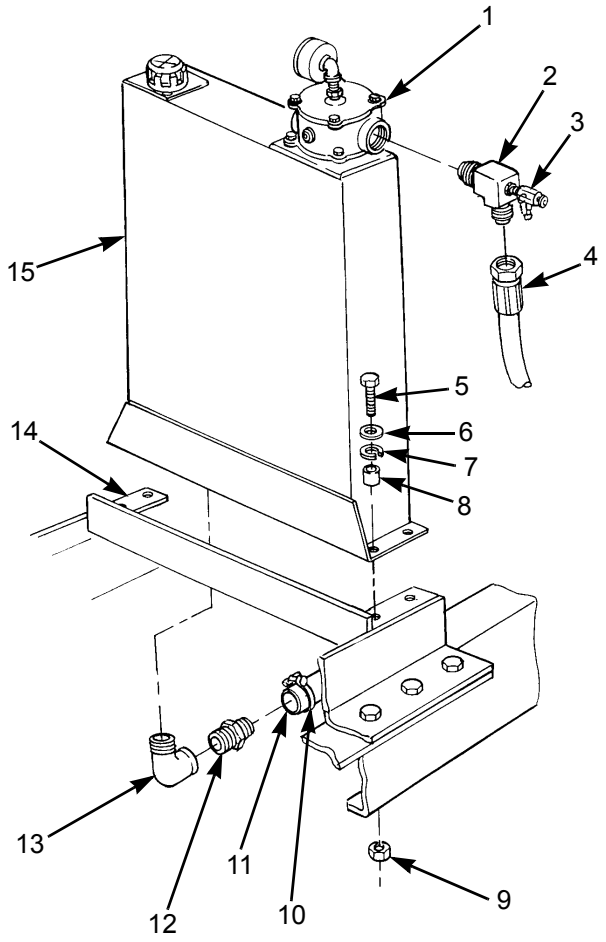
5. Attach a nylon sling and suitable lifting device to hydraulic reservoir (15). Take up slack in sling.

6. Remove four locknuts (9), spacers (8), lockwashers (7), washers (6), and screws (5). Discard locknuts and lockwashers.

WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment

7. Remove hydraulic reservoir (15) from cylinder support frame (14).



b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

4-75. HYDRAULIC RESERVOIR REPLACEMENT (Con't).

c. INSTALLATION

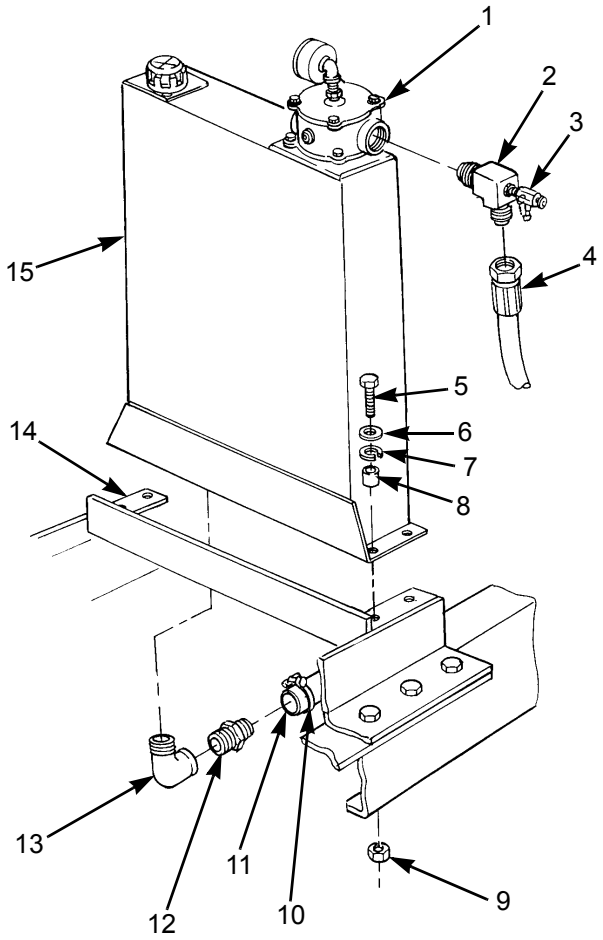
WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

NOTE

Use antiseize tape on all pipe threads (paragraph 4-22).

1. Attach a nylon sling and suitable lifting device to hydraulic reservoir (15). Take up slack in sling.
2. Position hydraulic reservoir (15) on cylinder support frame (14).
3. Install four screws (5), washers (6), new lockwashers (7), spacers (8), and new locknuts (9). Torque locknuts to 100-110 lb.-ft. (136-149 N•m). Remove nylon sling.
4. Install elbow (13) and hose barb (12) to hydraulic reservoir (15).
5. Connect suction hose (11) to hose barb (12) and tighten clamp (10).
6. Install tee (2) with oil sampling valve (3) to filter housing (1).
7. Connect hydraulic return hose (4) to tee (2).



FOLLOW-ON TASKS:

- Fill hydraulic reservoir (Chapter 3, Section I).
- Remove body props and lower dump body (paragraph 2-15).

4-76. HYDRAULIC RESERVOIR REPAIR.

This task covers:

a. Disassembly
b. Cleaning and Inspection
c. Assembly

Initial Setup:

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)
- Cap and plug set (Item 1, Appendix I)

Materials/Parts:

- Lubricating oil (Item 13 or 14, Appendix F)

Materials/Parts (Con't):

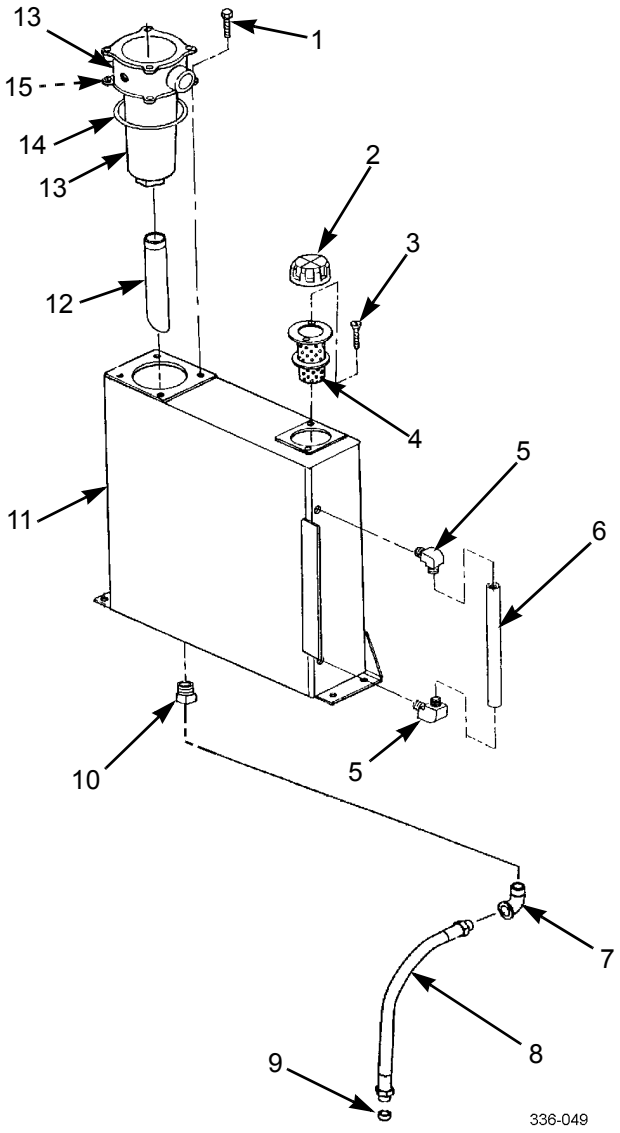
- Rags (Item 16, Appendix F)
- Antiseize tape (Item 21, Appendix F)
- One preformed packing
- One seal

a. DISASSEMBLY

CAUTION

Ports in reservoir should be plugged to prevent contamination of hydraulic system (paragraph 4-21).

1. Remove hydraulic oil filter service indicator gage (paragraph 4-79).
2. Remove hydraulic oil filter element (paragraph 4-78).
3. Remove four screws (1) and filter housing (13) from hydraulic reservoir (11).
4. Remove pipe (12) from filter housing (13).
5. Remove seal (14) from filter housing mounting flange. Discard seal.
6. Separate filter housing (13) and remove preformed packing (15). Discard preformed packing.
7. Remove fill cap (2), six screws (3), and strainer (4).
8. Remove sight tube (6) and two elbows (5).
9. Remove drain plug (10), elbow (7), hose (8), and cap (9).



b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

4-76. HYDRAULIC RESERVOIR REPAIR (Con't).

c. ASSEMBLY

NOTE

Use antiseize tape on all pipe threads (paragraph 4-22).

1. Install drain plug (10), elbow (7), hose (8), and cap (9).

NOTE

For information on manufacturing sight tube, refer to Appendix G, *Illustrated List of Manufactured Items*.

2. Install two elbows (5) and sight tube (6) to hydraulic reservoir (11).

3. Install strainer (4) with six screws (3). Install fill cap (2).

NOTE

Apply a light coat of lubricating oil to preformed packing and seal as they are assembled.

4. Assemble filter housing (13) with new preformed packing (15).

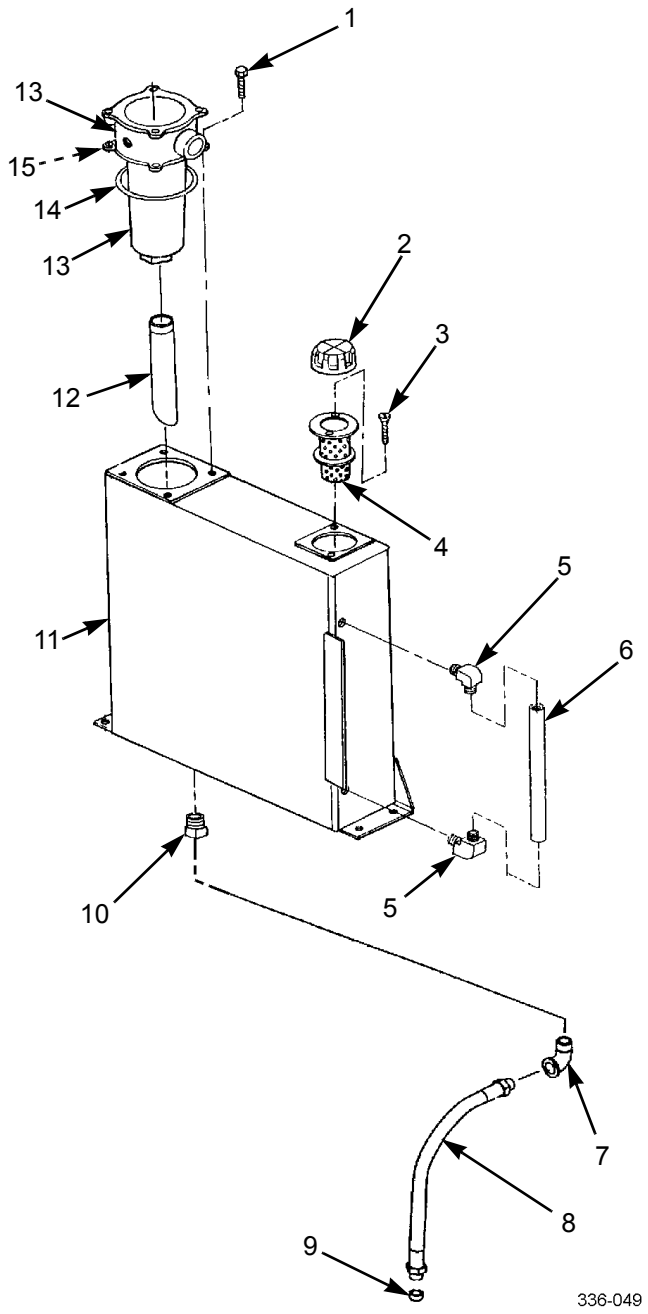
5. Install new seal (14) in filter housing mounting flange.

6. Install pipe (12) to filter housing (13).

7. Install filter housing (13) to hydraulic reservoir (11) with four screws (1).

8. Install hydraulic oil filter element (paragraph 4-78).

9. Install hydraulic oil filter service indicator gage (paragraph 4-79).



FOLLOW-ON TASKS:

- Fill hydraulic reservoir (Chapter 3, Section I).

4-77. HYDRAULIC OIL FILTER ELEMENT REPLACEMENT.

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Dump body raised and supported on body props (paragraph 2-15).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)
- Cap and plug set (Item 1, Appendix I)

Materials/Parts:

- Lubricating oil (Item 13 or 14, Appendix F)

Materials/Parts (Con't):

- Rags (Item 16, Appendix F)
- One oil filter element
- One preformed packing

General Safety Instructions:

- NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY.
- DO NOT disconnect hydraulic lines while engine is running.

WARNING

- **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.**

- **DO NOT disconnect hydraulic lines while engine is running. Engine must be shut down and dump body fully lowered or supported on body props before lines are disconnected. Escaping hydraulic fluid under pressure can penetrate the skin, causing serious injury to personnel.**

4-77. HYDRAULIC OIL FILTER ELEMENT REPLACEMENT (Con't).

a. REMOVAL

CAUTION

Ports in reservoir should be plugged to prevent contamination of hydraulic system (paragraph 4-21).

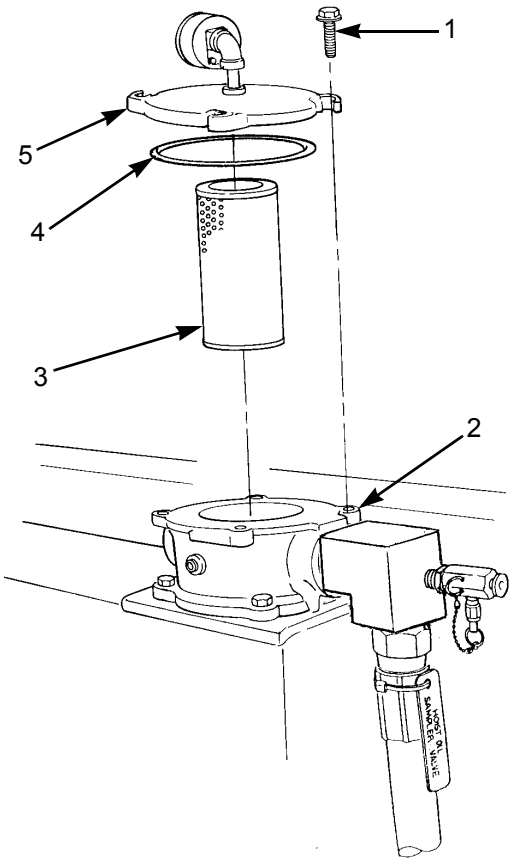
1. Loosen four screws (1), rotate filter housing cover (5), and lift cover from filter housing (2).
2. Remove oil filter element (3) and discard.
3. Remove preformed packing (4) from groove in filter housing cover (5). Discard preformed packing.

b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

c. INSTALLATION

1. Coat new preformed packing (4) with lubricating oil and install in groove of filter housing cover (5).
2. Install new oil filter element (3) to filter housing (2).
3. Install filter housing cover (5) to filter housing (2) with four screws (1).



FOLLOW-ON TASKS:

- Remove body props and lower dump body (paragraph 2-15).
- Fill hydraulic reservoir as necessary (Chapter 3, Section I).

4-78. HYDRAULIC OIL FILTER SERVICE INDICATOR GAGE REPLACEMENT.

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Dump body raised and supported on body props (paragraph 2-15).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)
- Cap and plug set (Item 1, Appendix I)

Materials/Parts:

- Rags (Item 16, Appendix F)
- Antiseize tape (Item 21, Appendix F)

General Safety Instructions:

- NEVER work under a raised dump body unless it is secured in the raised position with body props

WARNING

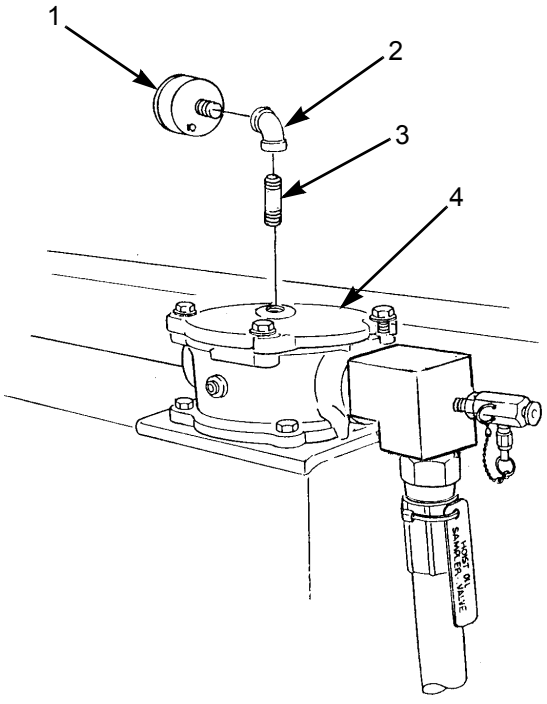
- **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.**
- **DO NOT disconnect hydraulic lines while engine is running. Engine must be shut down and dump body fully lowered or supported on body props before lines are disconnected. Escaping hydraulic fluid under pressure can penetrate the skin, causing serious injury to personnel.**

a. REMOVAL

CAUTION

Ports and hoses in reservoir should be plugged to prevent contamination of hydraulic system (paragraph 4-21).

1. Remove gage (1) from elbow (2).
2. Remove elbow (2) and nipple (3) from filter housing cover (4).



4-78 HYDRAULIC OIL FILTER SERVICE INDICATOR GAGE REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

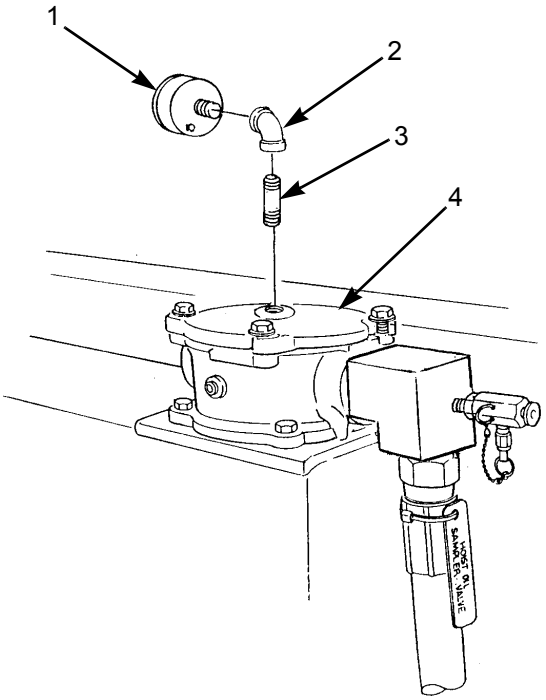
Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

c. INSTALLATION

NOTE

Use antiseize tape on all pipe threads (paragraph 4-22).

1. Apply antiseize tape to pipe threads of nipple (3) and install nipple and elbow (2) to filter housing cover (4).
2. Install gage (1) to elbow (2).



FOLLOW-ON TASKS:

- Remove body props and lower dump body (paragraph 2-15).

Section X. PREPARATION FOR STORAGE OR SHIPMENT

Paragraph Number	Paragraph Title	Page Number
4-79.	General	4-149
4-80.	Definition of Administrative Storage	4-149
4-81.	Preparation of Equipment for Administrative Storage	4-149
4-82.	Care of Equipment in Administrative Storage	4-151
Table 4-4.	Exercise Schedule	4-151
4-83.	Procedures for Common Components and Miscellaneous Items	4-152
4-84.	Removal of Equipment from Administrative Storage	4-152
4-85.	Preparation of Equipment for Shipment	4-152

4-79. GENERAL.

a. This chapter contains requirements and procedures for administrative storage of equipment that is issued to and in use by Army activities worldwide.

b. The requirements specified herein are necessary to maintain equipment in administrative storage in such a way as to achieve the maximum readiness condition.

c. Equipment that is placed in administrative storage should be capable of being readied to perform its mission within a 24-hour period, or as otherwise may be prescribed by the approving authority. Before equipment is placed in administrative storage, a current Preventive Maintenance Checks and Services (PMCS) should be completed and deficiencies corrected.

d. Report equipment in administrative storage as prescribed for all reportable equipment.

e. Perform inspections, maintenance services, and lubrication as specified herein.

f. Records and reports to be maintained for equipment in administrative storage are those prescribed by DA Pam 738-750 for equipment in use.

g. A 10% variance is acceptable on time used to determine the required maintenance actions.

h. Accomplishment of applicable PMCS, as mentioned throughout this chapter, will be on a semiannual basis.

4-80. DEFINITION OF ADMINISTRATIVE STORAGE.

The placement of equipment in administrative storage can be for short periods of time when a shortage of maintenance effort exists. Items should be ready for use within the time factors as determined by the directing authority. During the storage period, appropriate maintenance records will be kept.

4-81. PREPARATION OF EQUIPMENT FOR ADMINISTRATIVE STORAGE.

a. **Storage Site.**

(1) Select the best available site for administrative storage. Separate stored equipment from equipment in use. Conspicuously mark the area “Administrative Storage”.

(2) Covered space is preferred.

4-81. PREPARATION OF EQUIPMENT FOR ADMINISTRATIVE STORAGE (Con't).

(3) Open sites should be improved hardstand, if available. Unimproved sites should be firm, well-drained, and free of excessive vegetation.

b. **Storage Plan.**

(1) Store equipment so as to provide maximum protection from the elements and to provide access for inspection, maintenance, and exercising. Anticipate removal or deployment problems and take suitable precautions.

(2) Take into consideration environmental conditions, such as extreme heat or cold; high humidity; blowing sand, dust, or loose debris; soft ground; mud; heavy snows; or any combination thereof, and take adequate precautions.

(3) Establish a fire plan and provide for adequate fire fighting equipment and personnel.

c. **Maintenance Services and Inspections.**

(1) **Maintenance Services.** Prior to storage, perform the next scheduled PMCS.

(2) **Inspection**. Inspect and approve the equipment prior to storage. Do not place nonmission-capable equipment in storage.

d. **Correction of Shortcomings and Deficiencies.** Correct all shortcomings and deficiencies prior to storage, or obtain a deferment from the approving authority.

e. **Lubrication.** Lubricate equipment in accordance with Chapter 3, Section I.

f. **General Cleaning, Painting, and Preservation.**

CAUTION

DO NOT direct water under pressure against unsealed electrical systems or any exterior opening. Failure to follow this caution may result in damage to equipment.

(1) **Cleaning.** Clean the equipment of dirt, grease, and other contaminants, but do not use vapor degreasing.

(2) **Painting.** Remove rust and damaged paint by scraping, wire brushing, sanding, or buffing. Sand to a smooth finish and spot paint as necessary (TB 43-0209).

(3) **Preservation.** After cleaning and drying, immediately coat unpainted metal surfaces with oil or grease, as appropriate.

NOTE

- **Place a piece of barrier material (Item 2, Appendix F) between desiccant bags and metal surfaces.**
- **Air circulation under draped covers reduces deterioration from moisture or heat.**

(4) **Weatherproofing.** Sunlight, heat, moisture (humidity), and dirt tend to accelerate deterioration. Install all covers authorized for the equipment. Close and secure all openings except those required for venting and draining. Seal openings to prevent the entry of rain, snow, or dust. Insert desiccant when complete seal is required. Place equipment, and provide blocking or framing, to allow for ventilation and water drainage. Support cover away from item surfaces which may rust, rot, or mildew.

4-82. CARE OF EQUIPMENT IN ADMINISTRATIVE STORAGE.

a. **Maintenance Services.** After equipment has been placed in administrative storage, inspect, service, and exercise as specified herein.

b. **Inspection.** Inspection will usually be visual and must consist of at least a walkaround examination of all equipment to detect any deficiencies. Inspect equipment in open storage weekly and equipment in covered storage monthly. Inspect all equipment immediately after any severe storm or environmental change. The following are examples of things to look for during a visual inspection:

(1) Low or flat tires.

(2) Coolant, fuel, or oil leaks.

(3) Condition of preservatives, seals, and wraps.

(4) Corrosion or other deterioration.

(5) Missing or damaged parts.

(6) Water in compartments.

(7) Any other readily recognizable shortcomings or deficiencies.

c. **Repair During Administrative Storage.** Keep equipment in an optimum state of readiness. Accomplish the required services and repairs as quickly as possible. Whenever possible, perform all maintenance on-site.

d. **Exercising.** Exercise equipment in accordance with Table 4-4, *Exercise Schedule*, and the following instructions.

(1) **Vehicle Major Exercise.** Depreserve equipment by removing only that material restricting exercise. Close all drains, remove blocks, and perform all BEFORE operational checks. Make several right and left 90° turns. Make several hard braking stops without skidding. While exercising, and when it is safe and convenient, operate all other functional components and perform all DURING and AFTER operational checks.

(2) **Scheduled Services.** Scheduled services will include inspection per subparagraph b and will be conducted in accordance with Chapter 4, Section IV, Unit Preventive Maintenance Checks and Services (PMCS). Lubricate in accordance with instructions in Chapter 3, Section I.

(3) **Corrective Action.** Immediately take action to correct shortcomings and deficiencies noted. Record inspection and exercise results on DA Form 2404. Record and report all maintenance actions on DA Form 2407. After exercising, restore the preservation to the original condition. Replenish lubricants used during exercising and note the amount on DA Form 2408.

Table 4-4. Exercise Schedule.

Weeks	2	4	6	8	10	12	14	16	18	20	22	24
Scheduled Services												X
Major Exercise												X

e. **Rotation.** Rotate items in accordance with any rotational plan that will keep the equipment in an operational condition and reduce the maintenance effort.

4-83. PROCEDURES FOR COMMON COMPONENTS AND MISCELLANEOUS ITEMS.

a. **Tires.** Visually inspect tires during each walkaround inspection. This inspection includes checking tires with a tire gage. Inflate, repair, or replace as necessary those found to be low, damaged, or excessively worn. Mark inflated and repaired tires with a crayon for checking at the next inspection.

b. **Batteries.** Leave batteries in place in equipment. Disconnect battery cables (TM 9-2320-363-20 or TM 9-2320-302-20). Ensure that batteries are fully charged when equipment is stored and are returned to a full charge during each equipment exercising.

c. **Seals.** Seals may develop leaks during storage or shortly thereafter. If leaking persists, refer to the applicable maintenance section in this manual for corrective maintenance procedures.

4-84. REMOVAL OF EQUIPMENT FROM ADMINISTRATIVE STORAGE.

a. **Activation.** Restore the equipment to normal operating condition in accordance with the instructions contained in Chapter 4, Section II.

b. **Servicing.** Resume the maintenance service schedule in effect at the commencement of storage or service the equipment before the scheduled dates in order to produce a staggered maintenance workload.

4-85. PREPARATION OF EQUIPMENT FOR SHIPMENT.

a. Refer to FM 55-21, TM 55-601, and TM 743-200-1 for additional instructions on processing, storage, and shipment of materiel.

b. Vehicles that have been removed from storage for shipment do not have to be reprocessed if they will reach their destination within the administrative storage period. Reprocess only if inspection reveals any corrosion or if anticipated in-transit weather conditions make it necessary.

c. When a vehicle is received and has already been processed for domestic shipment, as indicated on DD Form 1397, it does not have to be reprocessed for storage unless corrosion and deterioration are found during the inspection upon receipt. List on SF Form 364 all discrepancies found because of poor preservation, packaging, packing, marking, handling, loading, storage, or excessive preservation. Repairs that cannot be handled by the receiving unit must have tags attached listing needed repairs. A report of these conditions will be submitted by the unit commander for action by an ordnance maintenance unit.

CHAPTER 5
DIRECT SUPPORT MAINTENANCE

Section I. DUMP BODY MAINTENANCE

Paragraph Number	Paragraph Title	Page Number
5-1.	Dump Body and Stabilizer Replacement	5-1
5-2.	Cylinder Support Frame Replacement	5-7

5-1. DUMP BODY AND STABILIZER REPLACEMENT.

This task covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Chassis-to-dump body air lines disconnected (paragraph 4-59).
- Chassis-to-dump body electrical harnesses disconnected (paragraphs 4-44 thru 4-47).
- Mud flaps removed (paragraph 4-63).

Tools /Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)
- Nylon slings (Item 6, Appendix I)
- Torque wrench (Item 12, Appendix I)
- Suitable lifting device with chains

Materials/Parts:

- Fourteen locknuts
- Wooden blocks

Personnel Required: Three

References:

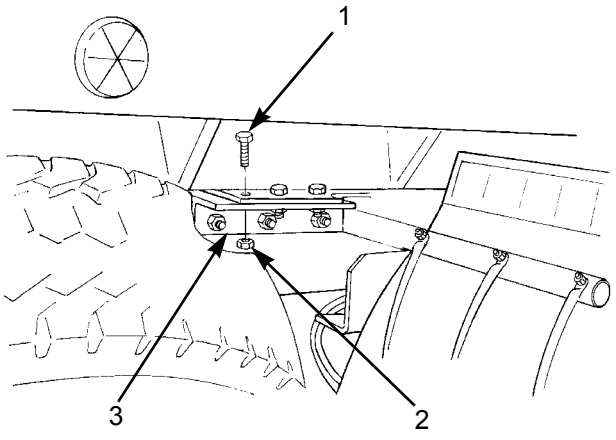
- TM 9-2320-363-10
- TM 9-2320-302-10
- TM 9-2320-363-20
- TM 9-2320-302-20
- TM 9-237

General Safety Instructions:

- Use extreme caution when handling heavy parts.
- NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY.

a. REMOVAL

1. Remove six locknuts (2) and screws (1) from left and right angle brackets (3). Discard locknuts.

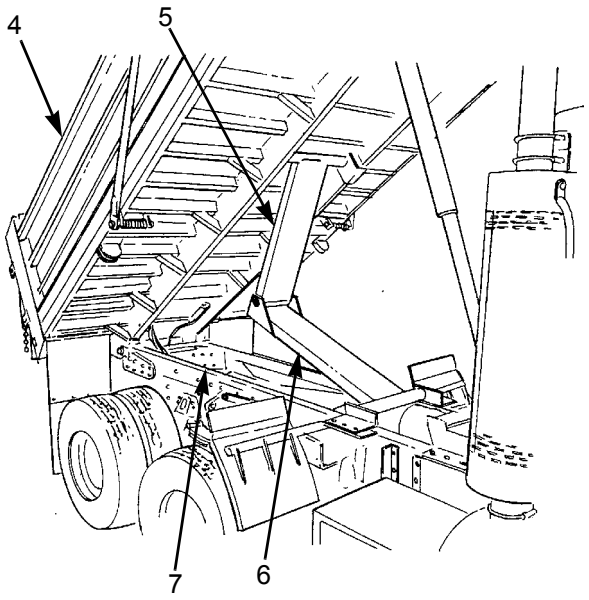


5-1. DUMP BODY AND STABILIZER REPLACEMENT (Con't).

2. Working from underside of vehicle, secure lower half (6) of stabilizer to upper half (5) and to dump body (4) using a suitable chain or nylon strap.

WARNING

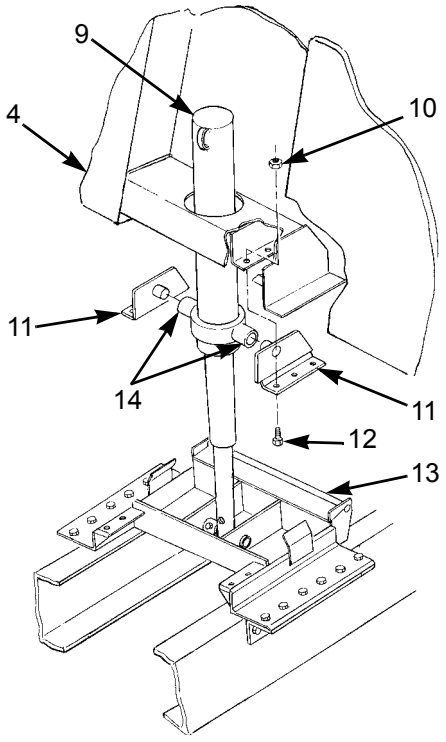
- **Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.**
- **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.**



3. Raise front of dump body (4) and support on body props (paragraph 2-15) using a suitable lifting device and chains.

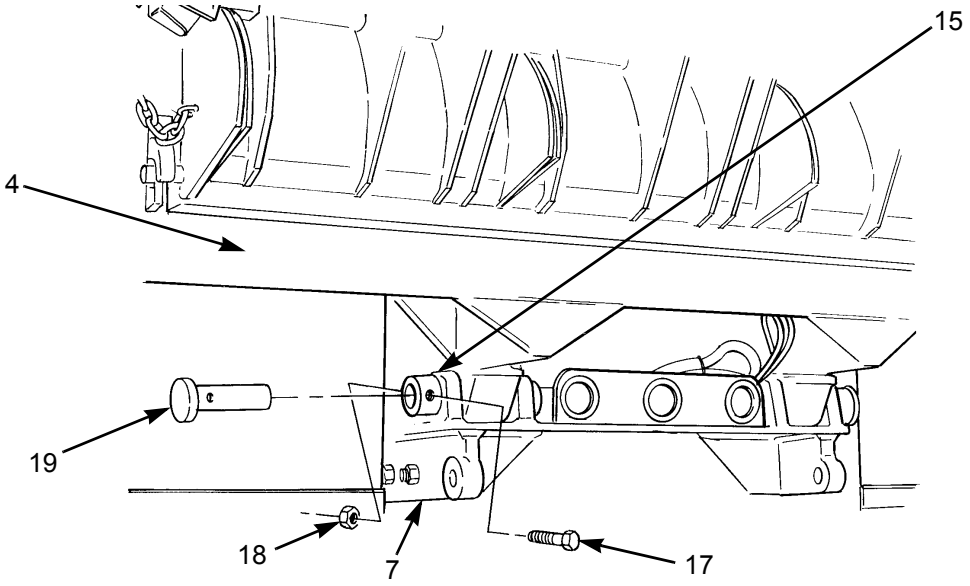
4. Remove six locknuts (10) and screws (12) from left and right mounting brackets (11). Remove brackets from hydraulic cylinder pivots (14). Discard locknuts.

5. Disengage PTO (TM 9-2320-363-10 or TM 9-2320-302-10). Lower hydraulic cylinder (9) by placing hydraulic control lever in cab in DOWN position (paragraph 2-1). With hydraulic cylinder lowered, place wooden blocks between base of cylinder and cylinder support frame (13) to provide support.



5-1. DUMP BODY AND STABILIZER REPLACEMENT (Con't).

6. Using suitable lift and chains, lower front of dump body (4).
7. Attach suitable lift and chains at four corners of dump body (4). Take up slack in chains with lift.
8. Remove two locknuts (18) and screws (17) from rear hinge (15) and hinge pins (19). Discard locknuts.
9. Remove left and right hinge pins (19) from rear hinge (15).



WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

NOTE

Before removing dump body from vehicle chassis, perform a trial lift to ensure body is balanced and will lift straight and level from vehicle chassis.

10. Remove dump body (4) from vehicle chassis (7). Place dump body on suitable supports and remove lifting device and chains.

WARNING

Provide adequate ventilation and personal protective equipment before starting any welding operation (TM 9-237). Contact your unit/local Industrial Hygienist or Safety Officer for assistance. Failure to follow this warning may result in injury to personnel

CAUTION

Before welding, the following components must be disconnected: DDEC ECU, ABS ECU, CTIS ECU, Datalogger, and batteries (TM 9-2320-363-20 or TM 9-2320-302-20). Failure to follow this caution may damage electronic components.

11. If stabilizer is damaged, it may be removed at this time. Refer to TM 9-237 *Operator's Manual for Welding Theory and Application*, for instructions on welding components.

5-1. DUMP BODY AND STABILIZER REPLACEMENT (Con't).

b. INSTALLATION

WARNING

- **Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.**
- **Provide adequate ventilation and personal protective equipment before starting any welding operation (TM 9-237). Contact your unit/local Industrial Hygienist or Safety Officer for assistance. Failure to follow this warning may result in injury to personnel.**

CAUTION

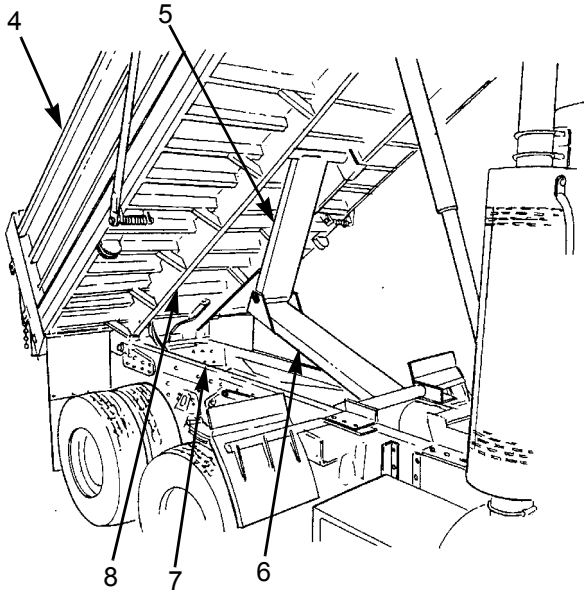
Before welding, the following components must be disconnected: DDEC ECU, ABS ECU, CTIS ECU, Datalogger, and batteries (TM 9-2320-363-20 or TM 9-2320-302-20). Failure to follow this caution may damage electronic components.

12. If removed, install stabilizer. Refer to TM 9-237 *Operator's Manual for Welding Theory and Application*, for instructions on welding components.
13. Secure lower half (6) of stabilizer to upper half (5) and to dump body (4) using a suitable chain or nylon strap.

NOTE

Before lifting dump body, perform a trial lift to ensure body is balanced and will lift straight and level.

14. Attach suitable lift and chains at four corners of dump body (4). Take up slack in chains with lift.



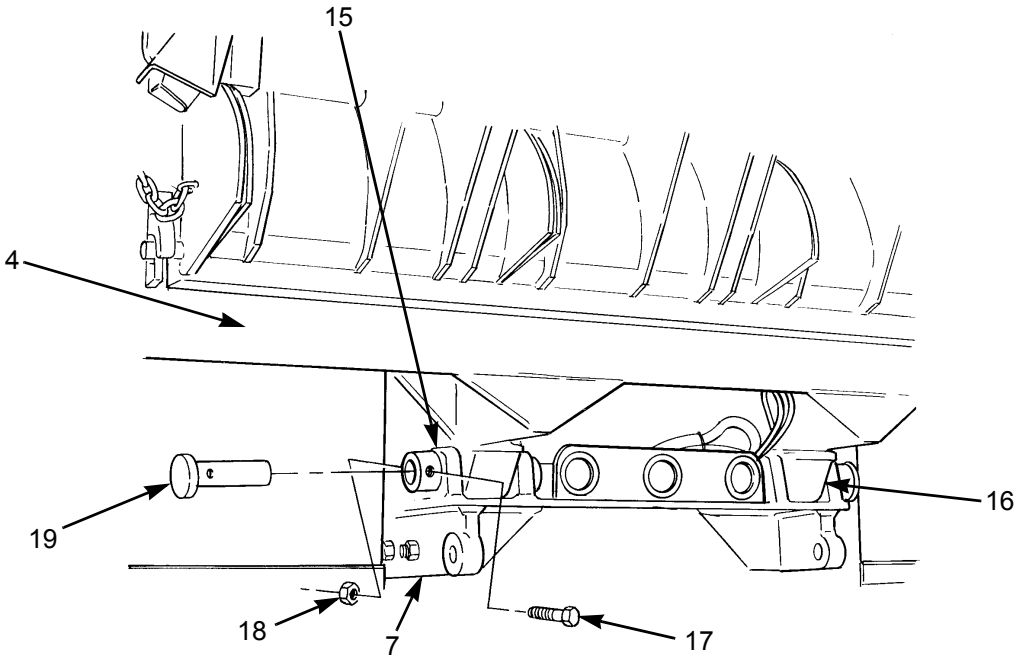
NOTE

When positioning dump body on vehicle chassis, pay close attention to hydraulic cylinder positioning and rear hinge assembly alinement.

15. Lift dump body (4) and position over vehicle chassis (7). Lower body until rear hinge (15) and hinge pads (16) are alined and hydraulic cylinder is properly positioned in recess at front of dump body.

5-1. DUMP BODY AND STABILIZER REPLACEMENT (Con't).

16. Install left and right hinge pins (19) in rear hinge (15).
17. Install two screws (17) and new locknuts (18) in rear hinge (15) and hinge pins (19).
18. Lower dump body (4) onto vehicle chassis (7). Remove lifting chains from rear of dump body.

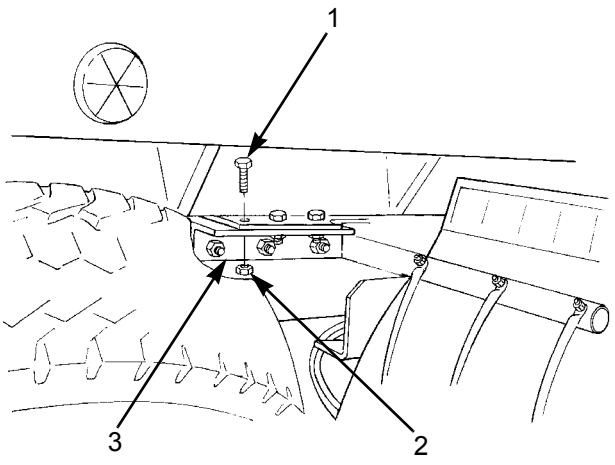


19. Working from underside of vehicle, release lower half (6) and upper half (5) of stabilizer from bottom of dump body (4).

NOTE

It may be necessary to raise front of dump body to aline stabilizer with chassis mounting holes.

20. Raise front of dump body (4) and position wooden blocks between dump body frame rails (8) and vehicle chassis (7).
21. Aline lower half of stabilizer mounting surface to angle brackets (3). Install six screws (1) and new locknuts (2) in left and right angle brackets. Torque locknuts to 150 lb.-ft. (203 N•m).
22. Lift front of dump body (4), remove wooden blocks, position body props in raised position, and lower body onto props (paragraph 2-15).



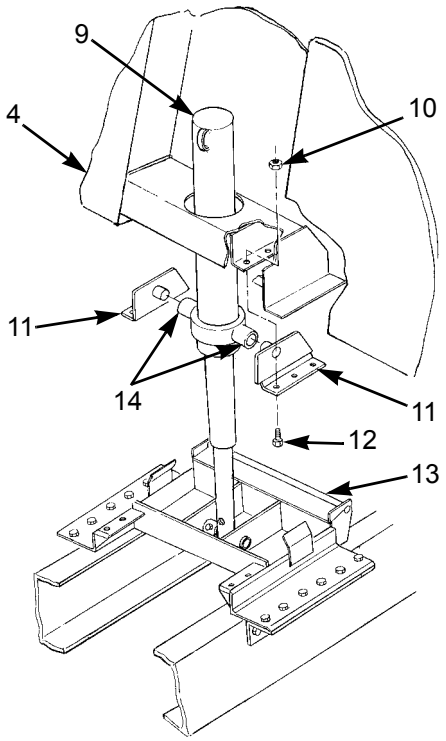
5-1. DUMP BODY AND STABILIZER REPLACEMENT (Con't).

23. Install left and right mounting brackets (11) on cylinder pivots (14).

NOTE

It may be necessary to raise and/or lower front of dump body to aline mounting brackets to dump body.

24. Aline mounting brackets (11) with mounting surface of dump body (4).
25. Install six screws (12) and new locknuts (10) to secure mounting brackets (11) to dump body (4). Torque locknuts to 150 lb.-ft. (203 N•m).
26. Remove dump body (4) from body props and lower body (paragraph 2-15).
27. Remove lifting device and chains from dump body (4).



FOLLOW-ON TASKS:

- Connect chassis-to-dump body air lines (paragraph 4-59).
- Connect chassis-to-dump body electrical harnesses (paragraphs 4-44 thru 4-47).
- Install mud flaps (paragraph 4-63).

5-2. CYLINDER SUPPORT FRAME REPLACEMENT.

This task covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Body up switch removed (paragraph 4-38).
- Hydraulic reservoir removed (paragraph 4-75).
- Hydraulic cylinder removed (paragraph 5-6).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)
- Nylon slings (Item 6, Appendix I)

Tools/Test Equipment (Con't):

- Torque wrench (Item 12, Appendix I)
- Suitable lifting device

Materials/Parts:

- Twenty-four locknuts

Personnel Required: Three

General Safety Instructions:

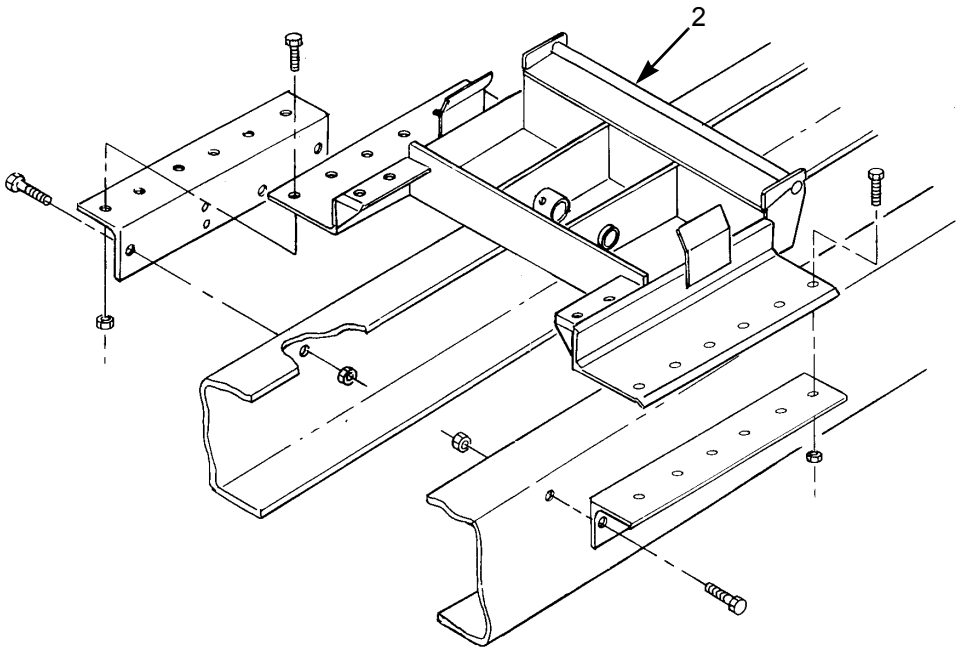
- Use extreme caution when handling heavy parts.

a. REMOVAL

WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

1. Attach slings to cylinder support frame (2) and attach slings to lifting device. Take up slack in slings with lift.



5-2. CYLINDER SUPPORT FRAME REPLACEMENT (Con't).

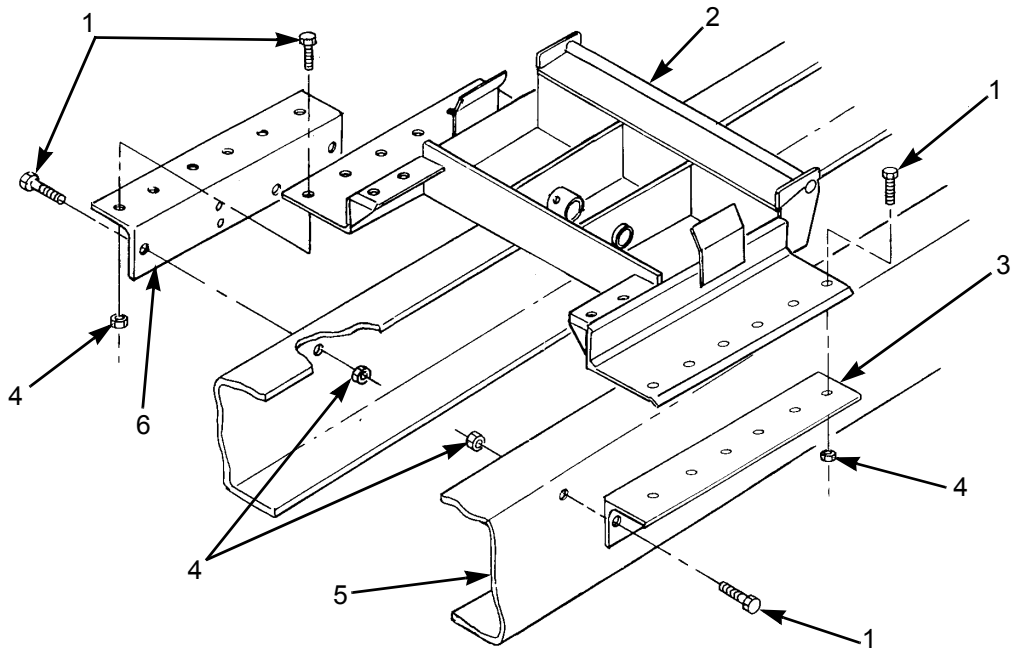
2. Remove 24 locknuts (4), screws (1), left angle bracket (3), and right angle bracket (6) from cylinder support frame (2) and vehicle chassis (5). Discard locknuts.
3. Remove cylinder support frame (2) from vehicle chassis (5) and move frame to safe work area. Remove slings.

b. INSTALLATION

WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

1. Attach slings to cylinder support frame (2) and attach slings to lifting device. Take up slack in slings with lift.
2. Lift cylinder support frame (2) and position on vehicle chassis (5).
3. Install right angle bracket (6) and left angle bracket (3) to vehicle chassis (5) and cylinder support frame (2) with 24 screws (1) and new locknuts (4).
4. Torque locknuts (4) to 200 lb.-ft. (271 N•m).



FOLLOW-ON TASKS:

- Install hydraulic cylinder (paragraph 5-6).
- Install hydraulic reservoir (paragraph 4-75).
- Install body up switch (paragraph 4-38).

Section II. DUMP BODY ACCESSORY ITEMS MAINTENANCE

5-3. CARGO COVER REPAIR.

Repair cargo cover in accordance with FM 10-16, *General Fabric Repair*.

Section III. HYDRAULIC SYSTEM MAINTENANCE

Paragraph Number	Paragraph Title	Page Number
5-4.	Hydraulic Pump Replacement	5-10
5-5.	Hydraulic Pump Repair	5-14
5-6.	Hydraulic Cylinder Replacement	5-20
5-7.	Hydraulic Cylinder Repair	5-23

5-4. HYDRAULIC PUMP REPLACEMENT.

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Hydraulic oil drained (Chapter 3, Section I).
- Transmission tunnel access cover removed (TM 9-2320-363-20 or TM 9-2320-302-20).
- Hydraulic control lever cable disconnected from hydraulic pump (paragraph 4-73).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)
- Cap and plug set (Item 1, Appendix I)
- Adjustable wrench (Item 10, Appendix I)
- Torque wrench (Item 11, Appendix I)

Materials/Parts:

- Rags (Item 16, Appendix F)
- Marker tags (Item 20, Appendix F)
- Antiseize tape (Item 21, Appendix F)
- Four lockwashers

Personnel Required: Two

General Safety Instructions:

- DO NOT disconnect hydraulic lines while engine is running.
- Use extreme caution when handling heavy parts.

WARNING

DO NOT disconnect hydraulic lines while engine is running. Engine must be shut down and dump body fully lowered or supported on body props before lines are disconnected. Escaping hydraulic fluid under pressure can penetrate the skin, causing serious injury to personnel.

a. REMOVAL

CAUTION

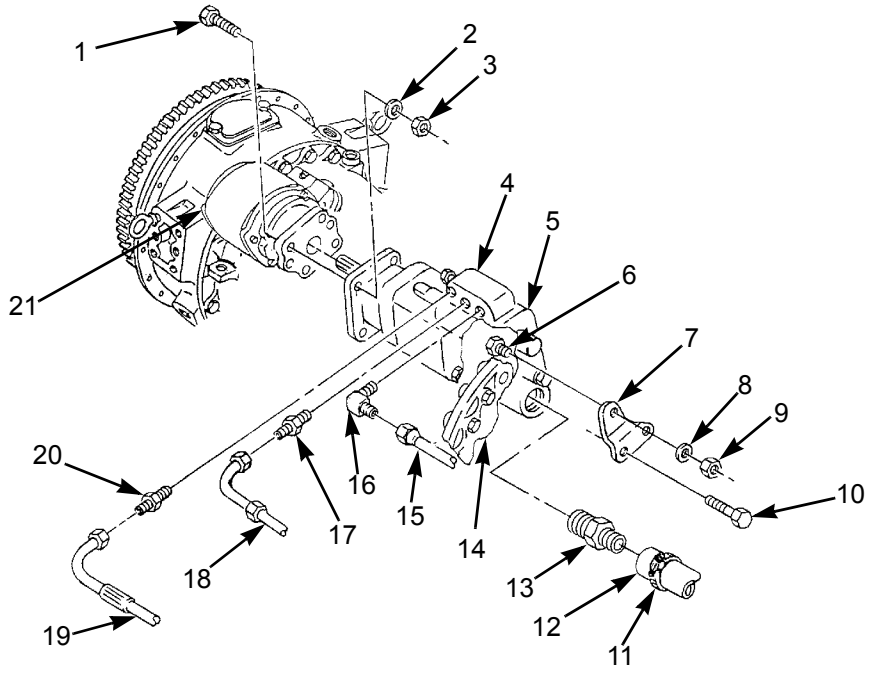
Hoses and ports in hydraulic components should be plugged to prevent contamination of hydraulic system (paragraph 4-21).

5-4. HYDRAULIC PUMP REPLACEMENT (Con't).

NOTE

- **Hoses should be tagged before removal (paragraph 4-17).**
- **A suitable container should be used to catch any draining hydraulic fluid. Ensure that all spills are cleaned up.**

1. Loosen clamp (11) and disconnect suction hose (12) from adapter (13).
2. Remove adapter (13) from hydraulic pump (5).
3. Disconnect hose (19) from adapter (20). Disconnect hose (18) from adapter (17).
4. Remove adapters (17 and 20) from control valve (4).
5. Disconnect hose (15) from elbow (16).
6. Remove elbow (16) from control valve (4).
7. Remove nut (9) and washer (8) from stud (6) of hydraulic pump (5).



8. Remove two screws (10) and support bracket (7) from transmission housing (14).

WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

9. Remove four nuts (3), lockwashers (2), screws (1), and hydraulic pump (5) from PTO (21). Discard lockwashers.

5-4. HYDRAULIC PUMP REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

c. INSTALLATION

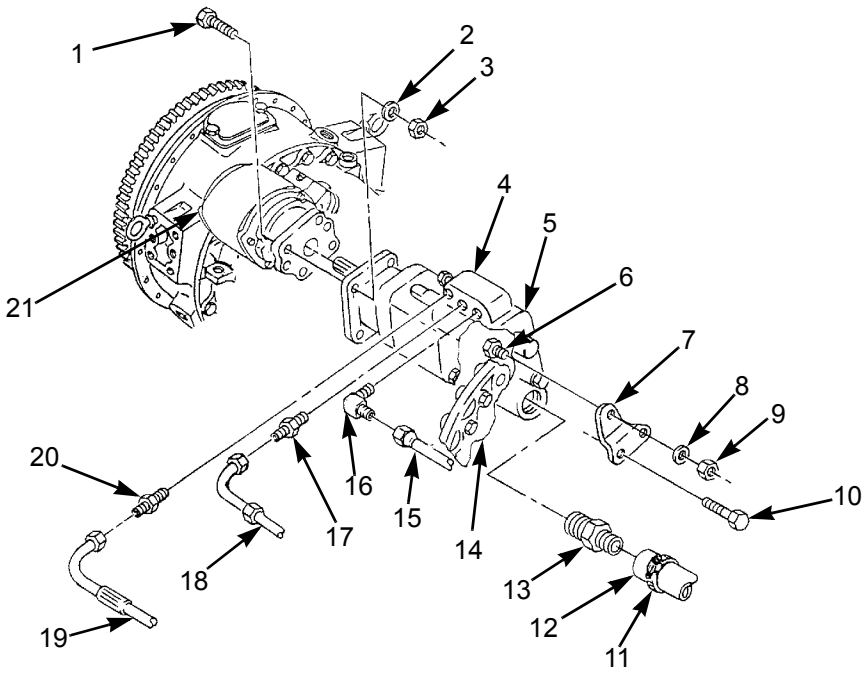
WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

NOTE

Use antiseize tape on all pipe threads (paragraph 4-22).

1. Install hydraulic pump (5) to PTO (21) with four screws (1), new lockwashers (2), and nuts (3).
2. Install support bracket (7) to transmission housing (14) with two screws (10). Torque screws to 70-80 lb.-ft. (95-108 N•m).
3. Install washer (8) and nut (9) to stud (6) of hydraulic pump (5).
4. Install elbow (16) to control valve (4).
5. Connect hose (15) to elbow (16).



5-4. HYDRAULIC PUMP REPLACEMENT (Con't).

6. Install adapters (17 and 20) to control valve (4).
7. Connect hoses (18 and 19) to adapters (17 and 20).
8. Install adapter (13) to hydraulic pump (5).
9. Connect suction hose (12) to adapter (13) and tighten clamp (11).

FOLLOW-ON TASKS:

- Fill hydraulic reservoir (Chapter 3, Section I).
- Connect hydraulic control lever cable to hydraulic pump (paragraph 4-73).
- Install transmission tunnel access cover (TM 9-2320-363-20 or TM 9-2320-302-20).

5-5. HYDRAULIC PUMP REPAIR.

This task covers:

a. Disassembly
b. Cleaning and Inspection
c. Assembly

Initial Setup:

Equipment Conditions:

- Hydraulic pump removed (paragraph 5-4).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)
- Machinist's vise (Item 9, Appendix I)
- Torque wrench (Item 12, Appendix I)
- Socket wrench set (Item 13, Appendix I)
- Deep well socket, 7/8 x 3/4 in. drive

Materials/Parts:

- Grease (Item 11, Appendix F)

Materials/Parts (Con't):

- Lubricating oil (Item 14, Appendix F)
- Rags (Item 16, Appendix F)
- One lip seal
- One retaining ring
- Two check assemblies
- Two gasket seals
- Two ring seals
- Four roller bearings
- Twelve pocket seals

General Safety Instructions:

- Use extreme caution when handling heavy parts.

a. DISASSEMBLY

WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

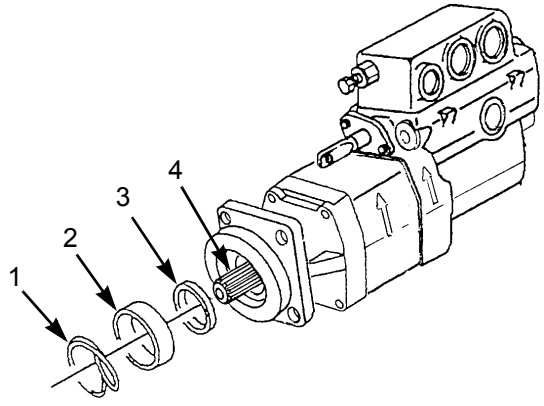
CAUTION

Remove dirt from outside of hydraulic pump. Perform repair in a clean work area to prevent contaminants from causing equipment failure.

NOTE

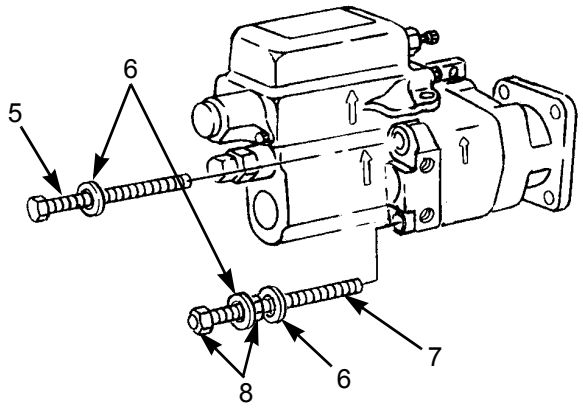
Mark castings of pump to aid in assembly.

1. Remove retaining ring (1), spacer (2), and seal retainer (3) from drive shaft (4). Discard retaining ring.



5-5. HYDRAULIC PUMP REPAIR (Con't).

2. Secure hydraulic pump in vise and remove three screws (5), two nuts (8), and five washers (6) securing pump housings.



NOTE

Note stud location for assembly.

3. Remove stud (7).

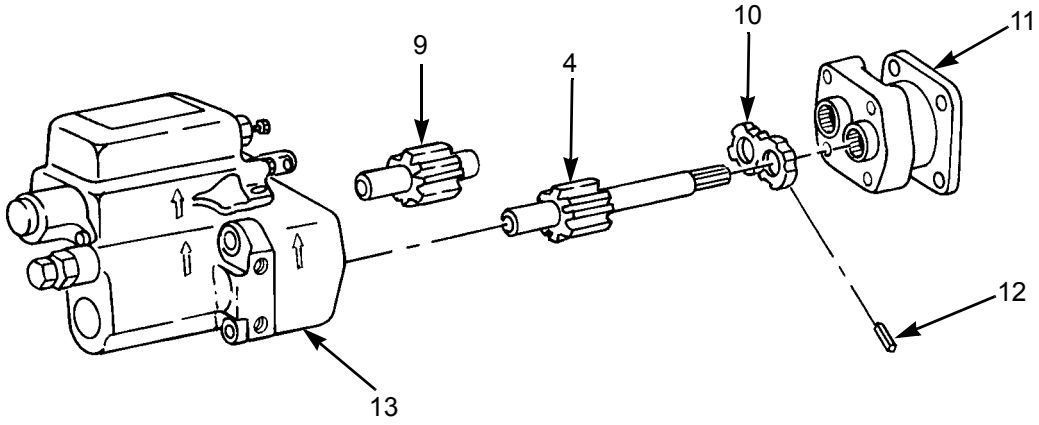
CAUTION

Internal surfaces and parts of hydraulic pump are machined to strict manufacturing tolerances. Care must be taken not to damage machined surfaces.

NOTE

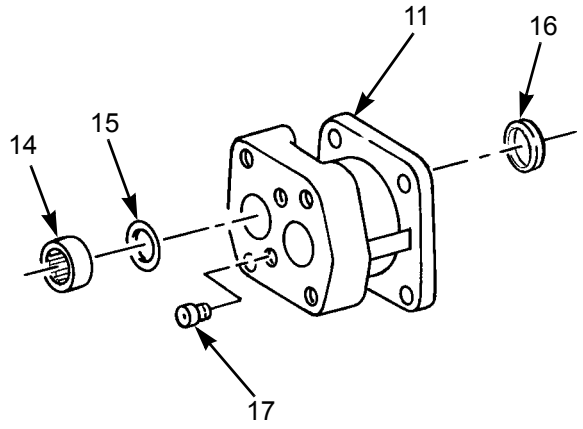
Drive shaft and gearshaft may slide out with end housing.

4. Place hydraulic pump on clean, flat surface and separate end housing (11) from gear housing (13).
5. Remove drive shaft (4) and gearshaft (9) from end housing (11).
6. Remove thrust plate (10) from end housing (11). Remove six pocket seals (12) from thrust plate. Discard pocket seals.

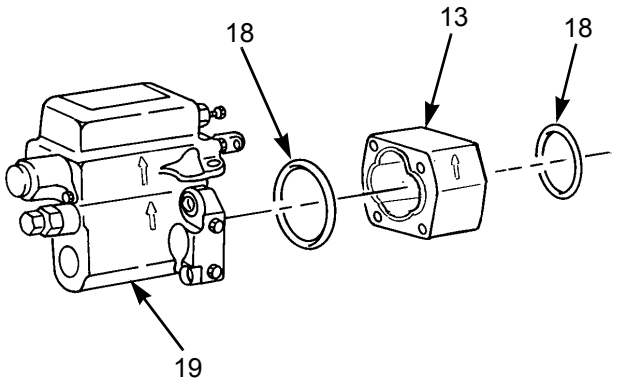


5-5. HYDRAULIC PUMP REPAIR (Con't).

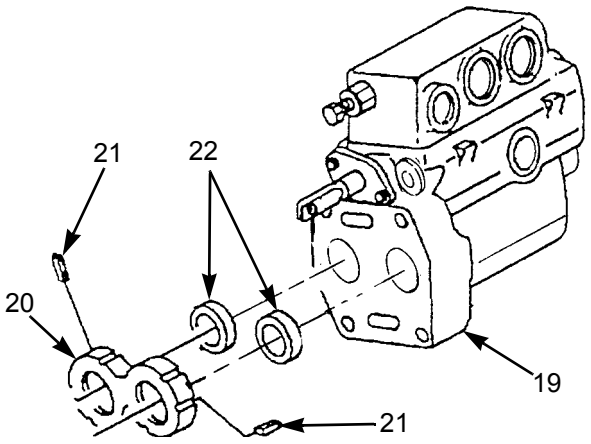
7. Remove two check assemblies (17) from end housing (11). Discard check assemblies.
8. Remove two roller bearings (14), ring seals (15), and lip seal (16) from end housing (11). Discard roller bearings, ring seals, and lip seal.



9. Remove gear housing (13) from pump housing (19). Remove two gasket seals (18) from gear housing. Discard gasket seals.



10. Remove thrust plate (20) and six pocket seals (21) from pump housing (19). Discard pocket seals.
11. Remove two roller bearings (22). Discard roller bearings.



5-5. HYDRAULIC PUMP REPAIR (Con't).

b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions* and the following:

(a) Inspect drive shaft and gearshaft for scoring or grooving on teeth. Any scoring, grooving, or burring of outside diameter of teeth requires replacement of shafts as a set. If shafts are replaced, roller bearings must also be replaced.

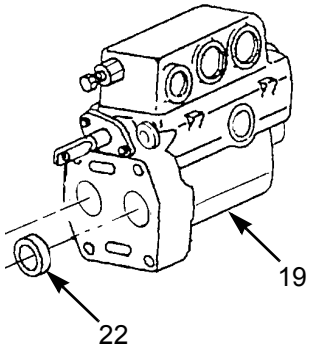
(b) Inspect thrust plates for wear, pitting, or discoloration. If found, replace thrust plates.

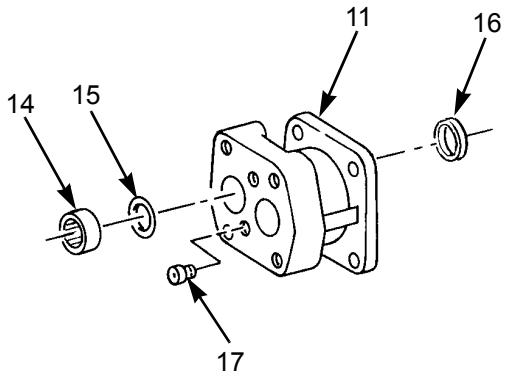
c. ASSEMBLY

NOTE

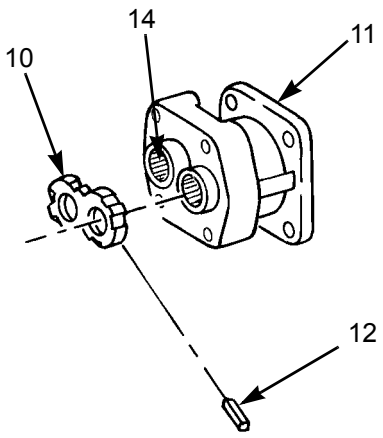
Apply a light coat of lubricating oil to surfaces of components as they are assembled.

1. Press two new roller bearings (22) into pump housing (19). Press two new ring seals (15) and new roller bearings (14) into end housing (11).
2. Press new lip seal (16) into drive shaft side of end housing (11).
3. Install two new check assemblies (17) to end housing (11).





4. Cut two pocket seals (12) 3/16 in. (4.8 mm) long and place in center slots of thrust plate (10). Use light grease to hold in place. Place thrust plate, with pocket seals facing machined surface, over bearings (14) of end housing (11) and tap to about 1/32 in. (0.8 mm) from machined surface.
5. Insert remaining four pocket seals (12) into place around thrust plate (10). Tap thrust plate down onto machined surface. Cut excess seal from thrust plate.



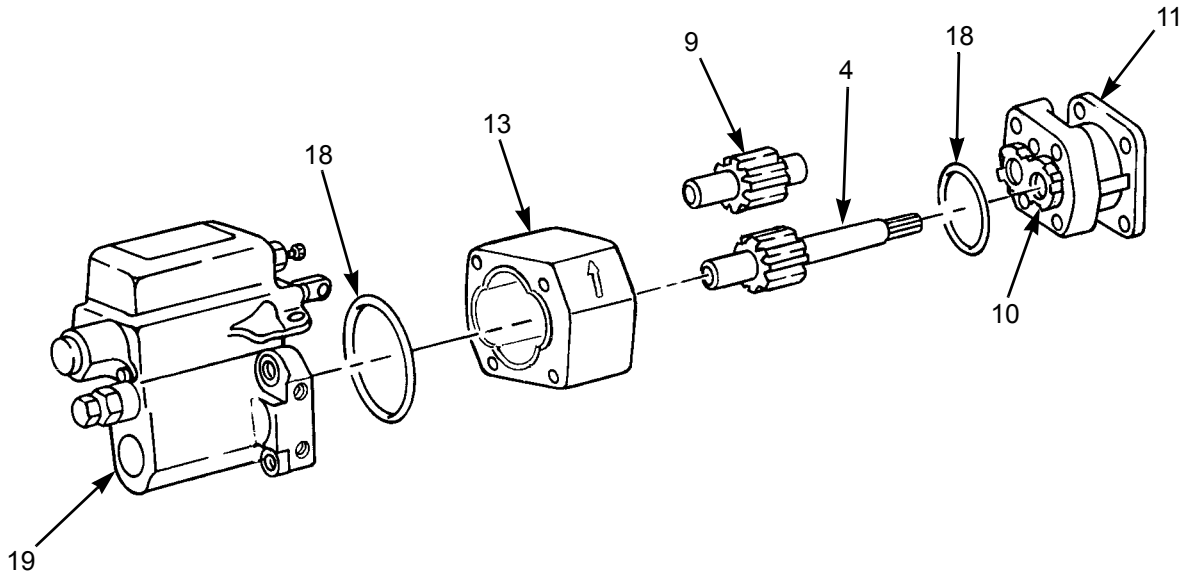
5-5. HYDRAULIC PUMP REPAIR (Con't).

6. Repeat step 5 for thrust plate on pump housing (19).
7. Install pump housing (19) in vise with machined surface facing up.

NOTE

Use scribe marks from disassembly to properly assemble pump housings. Light tapping with rubber hammer may be required to seat housings in place.

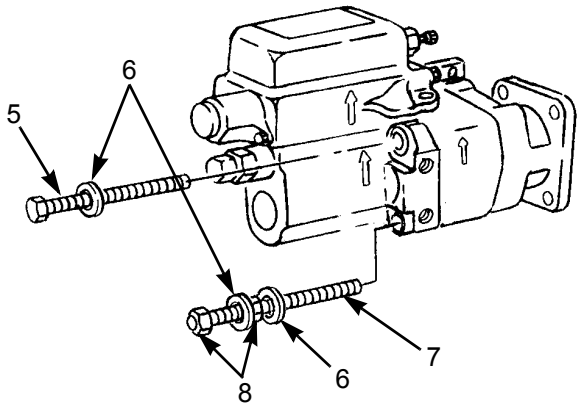
8. Install new gasket seal (18) in gear housing (13) and place gear housing on pump housing (19).
9. Install drive shaft (4) and gearshaft (9) into gear housing (13). Check for free turning of gears.
10. Install new gasket seal (18) on gear housing (13). Apply light coat of grease to drive shaft (4).
11. Place end housing (11) over drive shaft (4) and carefully press housing in place seating gears against thrust plate (10).



NOTE

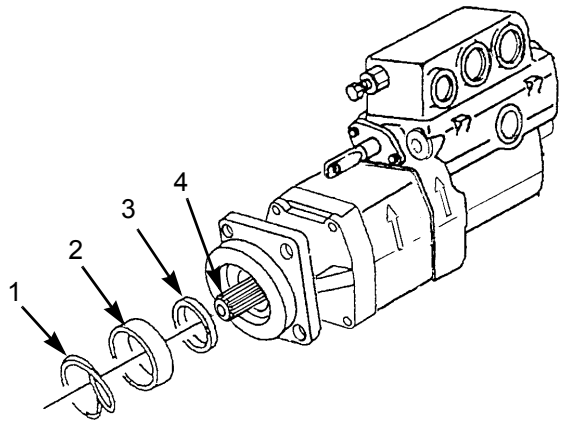
Ensure that stud is installed in correct location as noted in disassembly.

12. Install three screws (5), three washers (6), stud (7), washer (6), and nut (8) in place to secure pump housings. Tighten screws and stud in crisscross pattern and torque to 200 lb.-ft. (271 N•m). Check for free shaft movement by turning drive shaft (4) with a wrench.
13. Install one washer (6) and nut (8) on stud (7) and tighten by hand.



5-5. HYDRAULIC PUMP REPAIR (Con't).

14. Install seal retainer (3), spacer (2), and new retaining ring (1) on drive shaft (4).



FOLLOW-ON TASKS:

- Install hydraulic pump (paragraph 5-4).

5-6. HYDRAULIC CYLINDER REPLACEMENT.

This task covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Dump body raised and supported on body props (paragraph 2-15).
- Cab shield removed (paragraph 4-62).
- Hydraulic oil drained (Chapter 3, Section I).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)
- Cap and plug set (Item 1, Appendix I)
- Nylon sling (Item 6, Appendix I)
- Suitable lifting device

Materials/Parts:

- Rags (Item 16, Appendix F)
- Marker tags (Item 20, Appendix F)

Materials/Parts (Con't):

- Seven locknuts
- Two lockwashers

Personnel Required: Three

General Safety Instructions:

- NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY.
- DO NOT disconnect hydraulic lines while engine is running.
- Use extreme caution when handling heavy parts.
- Hydraulic cylinder sleeves may extend downward as hydraulic cylinder is lifted.

WARNING

- **NEVER work under a raised dump body unless it is secured in the raised position with body props and dump body is EMPTY. Failure to follow this warning may result in death or injury to personnel.**
- **DO NOT disconnect hydraulic lines while engine is running. Engine must be shut down and dump body fully lowered or supported on body props before lines are disconnected. Escaping hydraulic fluid under pressure can penetrate the skin, causing serious injury to personnel.**

a. REMOVAL

CAUTION

Hoses and ports in hydraulic components should be plugged to prevent contamination of hydraulic system (paragraph 4-21).

NOTE

- **Hoses should be tagged before removal (paragraph 4-17).**
- **A suitable container should be used to catch any draining hydraulic fluid. Ensure that all spills are cleaned up.**

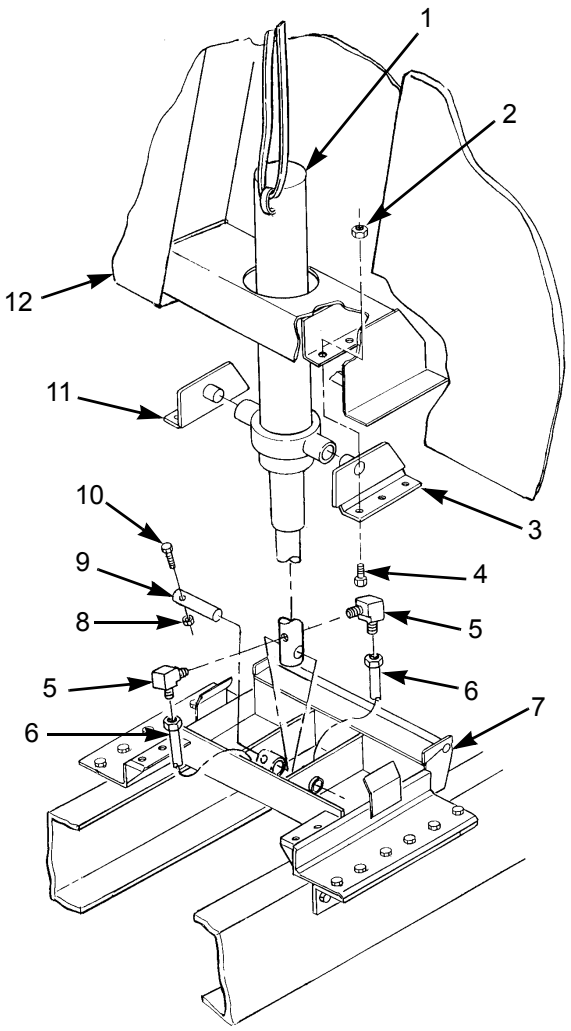
1. At lower end of hydraulic cylinder (1), disconnect hose assemblies (6) from elbows (5). Remove elbows.

5-6. HYDRAULIC CYLINDER REPLACEMENT (Con't).

WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

2. Install lifting sling through loop in hydraulic cylinder (1) and attach lifting sling to lifting device.
3. Remove locknut (8), screw (10), and pivot pin (9) from cylinder support frame (7) and hydraulic cylinder (1). Discard locknut.
4. While holding hydraulic cylinder (1) securely, remove six locknuts (2), screws (4), and left and right mounting brackets (3 and 11) from dump body (12). Discard locknuts.



5. Remove left and right mounting brackets (3 and 11) from hydraulic cylinder (1).

WARNING

- **Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.**
- **Hydraulic cylinder sleeves may extend downward as hydraulic cylinder is lifted. Expect sleeve movement any time hydraulic cylinder is handled. Failure to do so may result in serious injury to personnel.**

6. Remove hydraulic cylinder (1) from vehicle. Move hydraulic cylinder to a safe work area.

5-6. HYDRAULIC CYLINDER REPLACEMENT (Con't).

b. CLEANING AND INSPECTION

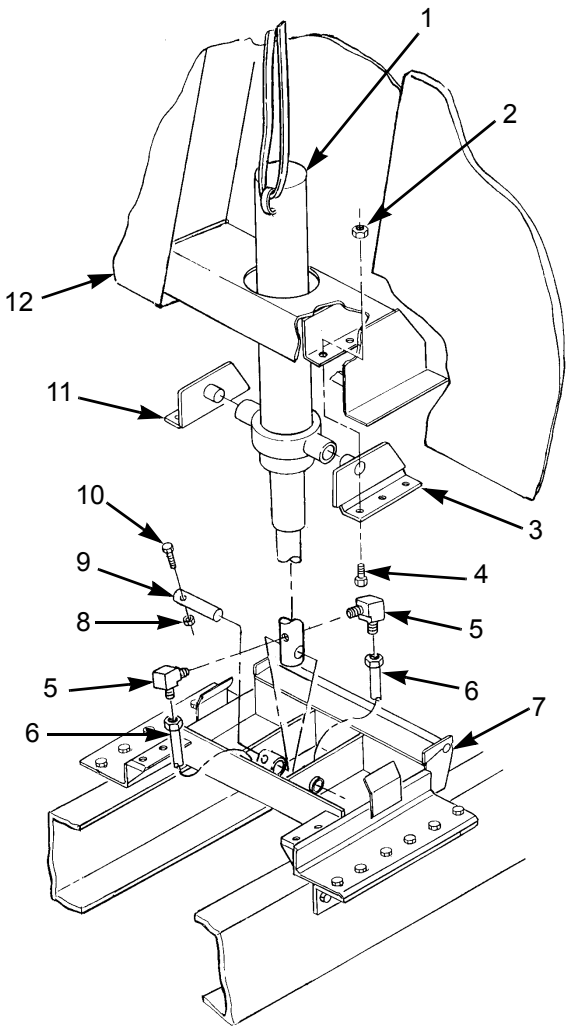
Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

c. INSTALLATION

WARNING

Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.

1. Install lifting sling through loop in hydraulic cylinder (1) and attach lifting sling to lifting device.
2. Position hydraulic cylinder (1) to vehicle.
3. While holding hydraulic cylinder (1) securely, position left and right mounting brackets (3 and 11) to hydraulic cylinder (1).
4. Install left and right mounting brackets (3 and 11) to dump body (12) with six screws (4) and new locknuts (2).
5. Install lower end of hydraulic cylinder (1) to cylinder support frame (7) with pivot pin (9), screw (10), and new locknut (8).
6. Remove lifting sling from lifting device and hydraulic cylinder (1).
7. Install two elbows (5) to lower end of hydraulic cylinder (1). Connect two hose assemblies (6) to elbows.



FOLLOW-ON TASKS:

- Fill hydraulic reservoir (Chapter 3, Section I).
- Remove body props and lower dump body (paragraph 2-15).
- Install cab shield (paragraph 4-62).

5-7. HYDRAULIC CYLINDER REPAIR.

This task covers:

a. Disassembly
b. Cleaning and Inspection
c. Assembly

Initial Setup:

Equipment Conditions:

- Hydraulic cylinder removed (paragraph 5-6).

Tools/Test Equipment:

- General mechanic's tool kit (Item 8, Appendix I)
- Pliers, retaining ring (Item 5, Appendix I)
- Nylon sling (Item 6, Appendix I)
- Seal installer, 3 in. (Item 4, Appendix B)
- Seal installer, 4 in. (Item 5, Appendix B)
- Seal installer, 5 in. (Item 6, Appendix B)
- Hydraulic cylinder disassembly tool (Appendix G)
- Suitable lifting device

Materials/Parts:

- Lubricating oil (Item 14, Appendix F)
- Rags (Item 16, Appendix F)
- Marker tags (Item 20, Appendix F)
- Masking tape (Item 23, Appendix F)
- One parts kit

Personnel Required: Two

General Safety Instructions:

- Use extreme caution when handling heavy parts.
- Hydraulic cylinder sleeves may extend downward as hydraulic cylinder is lifted.

a. DISASSEMBLY

WARNING

- **Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.**
- **Hydraulic cylinder sleeves may extend downward as hydraulic cylinder is lifted. Expect sleeve movement any time hydraulic cylinder is handled. Failure to do so may result in serious injury to personnel.**

CAUTION

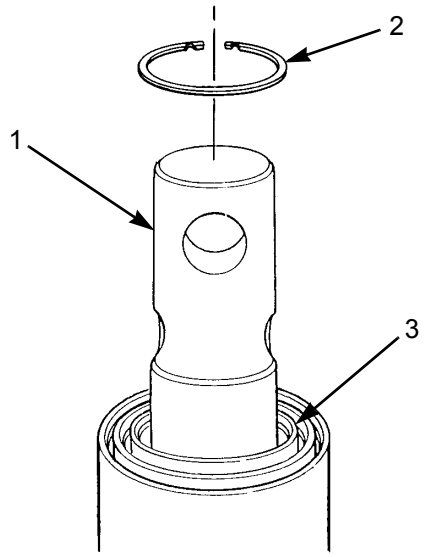
Perform hydraulic cylinder repair in a clean work area to prevent contaminants from causing equipment failure.

NOTE

A suitable container should be used to catch any draining hydraulic fluid. Ensure that all spills are cleaned up.

5-7. HYDRAULIC CYLINDER REPAIR (Con't).

1. Using overhead lifting device with nylon sling, move hydraulic cylinder assembly to a vertical position with plunger (1) facing upward. Securely block hydraulic cylinder in vertical position.



NOTE

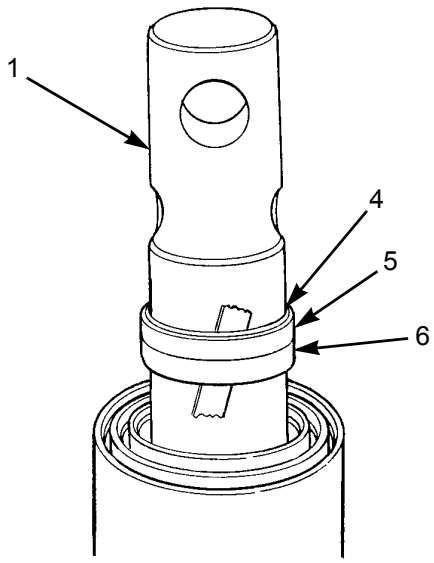
Perform steps 2 thru 10 to remove plunger from sleeve.

2. Remove retaining ring (2) from sleeve (3).

NOTE

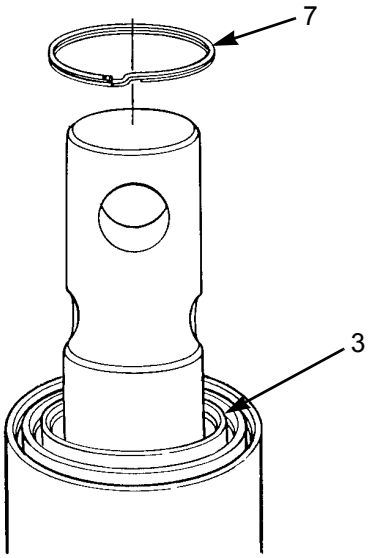
- **Retaining rings, piston rings, seals, wear rings, guide rings, wipers, and wiper retainers should be noted by name and installed position immediately after removal and replacement parts from parts kit tagged (paragraph 4-17) to aid in installation.**
- **Wiper retainer and seal should come out as plunger is lifted a few inches. If not, apply a three-inch strip of tape at a 45 degree angle to a cleaned section of plunger. Lower and again lift plunger to remove wiper retainer and seal.**

3. Lift plunger (1) to expose wiper retainer (5) and seal (6). Lower plunger and remove nylon sling. Remove wiper retainer and seal from plunger. Remove wiper (4) from wiper retainer. Discard wiper, wiper retainer, and seal. Remove tape from plunger, if used.

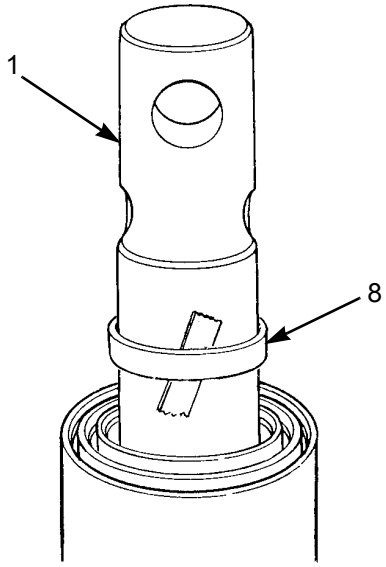


5-7. HYDRAULIC CYLINDER REPAIR (Con't).

4. Remove spiral retaining ring (7) from sleeve (3). Discard spiral retaining ring.

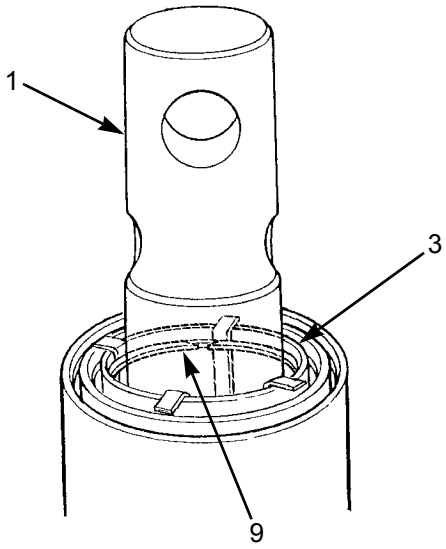


5. Using overhead lifting device with nylon sling, raise plunger (1) a few inches and apply tape to a cleaned section of plunger.
6. Lower and lift plunger (1) to expose bottom guide ring (8). Remove tape.
7. Lower plunger (1) and remove nylon sling. Remove bottom guide ring (8) from plunger. Discard bottom guide ring.



5-7. HYDRAULIC CYLINDER REPAIR (Con't).

8. Using two small screwdrivers, remove bottom retaining ring (9) from groove of sleeve (3). Position four hydraulic cylinder disassembly tools, equally spaced, between bottom retaining ring and sleeve.

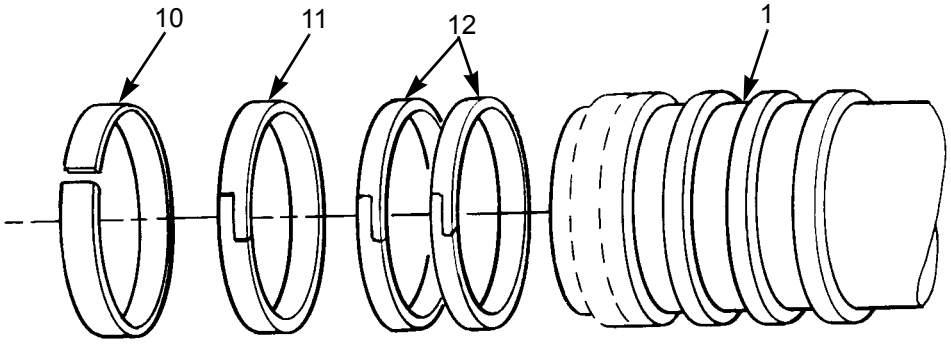


NOTE

Hydraulic cylinder disassembly tools will fall free as plunger, with bottom retaining ring, is removed from sleeve.

9. Remove plunger (1) from sleeve (3). Remove nylon sling and bottom retaining ring (9) from plunger.

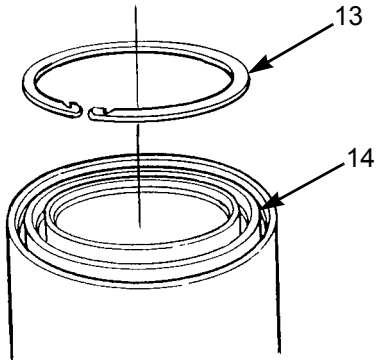
10. Remove wear ring (10), piston ring (11), and two piston rings (12) from other end of plunger (1). Discard wear ring.



NOTE

Perform steps 11 thru 18 to remove next sleeve.

11. Remove retaining ring (13) from sleeve (14).

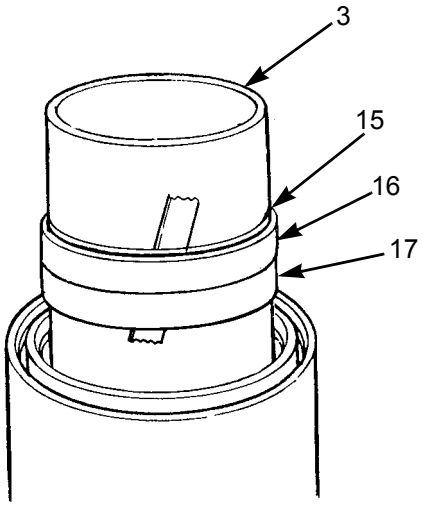


5-7. HYDRAULIC CYLINDER REPAIR (Con't).

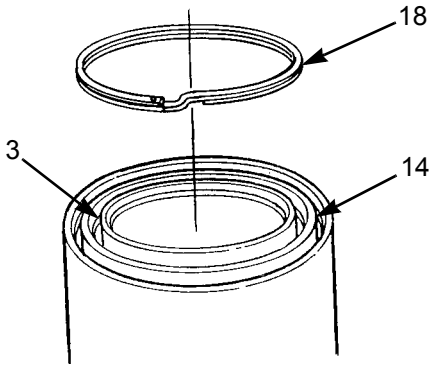
NOTE

Hydraulic cylinder may be positioned horizontally and tipped to extend sleeve. Wiper retainer and seal should come out as sleeve is extended a few inches. If not, apply a three-inch strip of tape at a 45 degree angle to a cleaned section of sleeve. Retract and again extend sleeve to remove wiper retainer and seal.

12. Extend sleeve (3) to expose wiper retainer (16) and seal (17). Remove wiper retainer and seal from sleeve. Remove wiper (15) from wiper retainer. Discard wiper, wiper retainer, and seal. Remove tape from sleeve, if used.

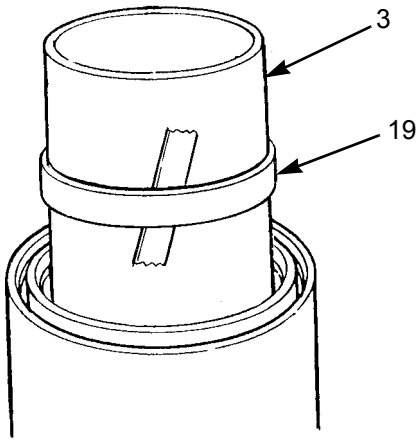


13. Retract sleeve (3). Remove spiral retaining ring (18) from sleeve (14). Discard spiral retaining ring.



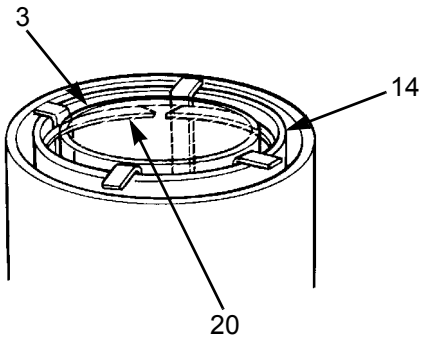
14. Extend sleeve (3) a few inches and apply tape to a cleaned section of sleeve.

15. Retract and extend sleeve (3) to expose bottom guide ring (19). Remove and discard bottom guide ring.



5-7. HYDRAULIC CYLINDER REPAIR (Con't).

16. Using two small screwdrivers, remove bottom retaining ring (20) from groove of sleeve (14). Position four hydraulic cylinder disassembly tools, equally spaced, between bottom retaining ring and sleeve.

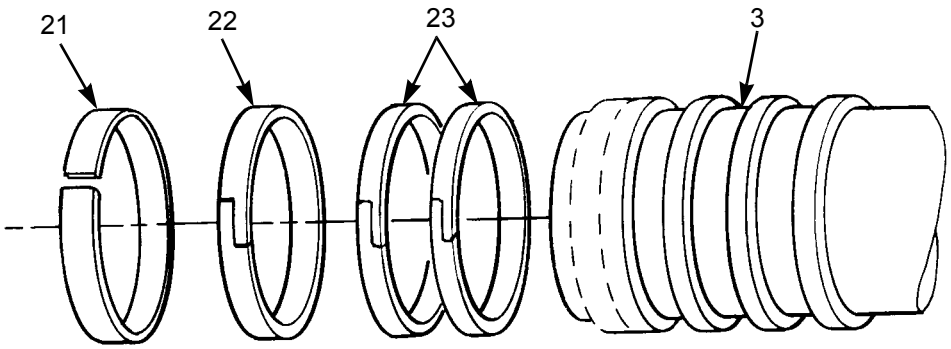


NOTE

Hydraulic cylinder disassembly tools will fall free as sleeve, with bottom retaining ring, is removed from larger sleeve.

17. Remove sleeve (3) from sleeve (14). Remove bottom retaining ring (20) from sleeve (3).

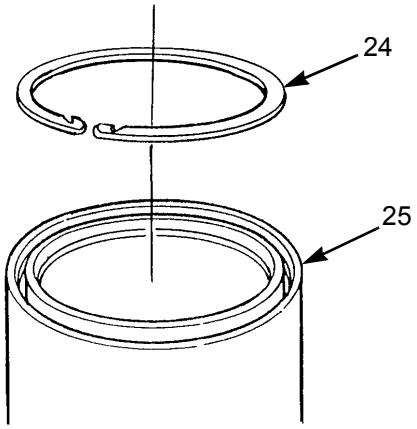
18. Remove wear ring (21), piston ring (22), and two piston rings (23) from other end of sleeve (3). Discard wear ring.



NOTE

Perform steps 19 thru 26 to remove next sleeve.

19. Remove retaining ring (24) from barrel (25).

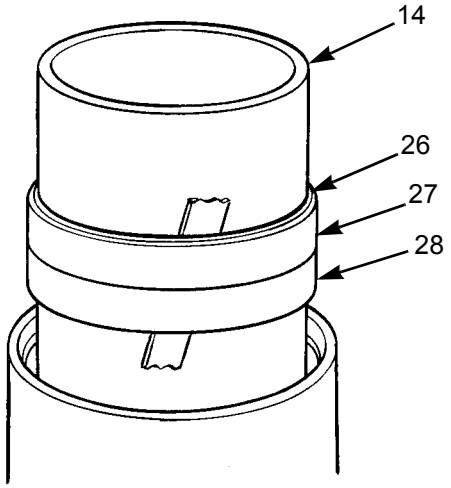


5-7. HYDRAULIC CYLINDER REPAIR (Con't).

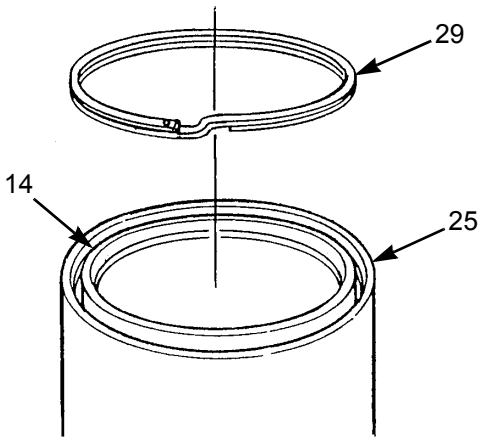
NOTE

Wiper retainer and seal should come out as sleeve is extended a few inches. If not, apply a three-inch strip of tape at a 45 degree angle to a cleaned section of sleeve. Retract and again extend sleeve to remove wiper retainer and seal.

20. Extend sleeve (14) to expose wiper retainer (27) and seal (28). Remove wiper retainer and seal from sleeve. Remove wiper (26) from wiper retainer. Discard wiper, wiper retainer, and seal. Remove tape from sleeve, if used.

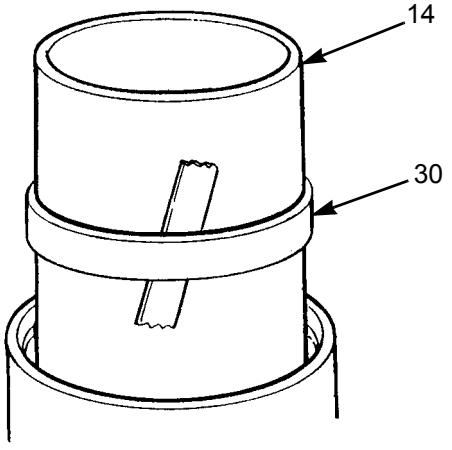


21. Retract sleeve (14). Remove spiral retaining ring (29) from barrel (25). Discard spiral retaining ring.



22. Extend sleeve (14) a few inches and apply tape to a cleaned section of sleeve.

23. Retract and extend sleeve (14) to expose bottom guide ring (30). Remove and discard bottom guide ring.



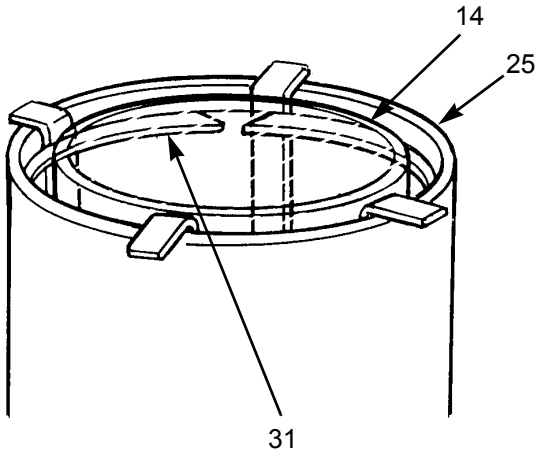
5-7. HYDRAULIC CYLINDER REPAIR (Con't).

24. Using two small screwdrivers, remove bottom retaining ring (31) from groove of barrel (25). Position four hydraulic cylinder disassembly tools, equally spaced, between bottom retaining ring and barrel.

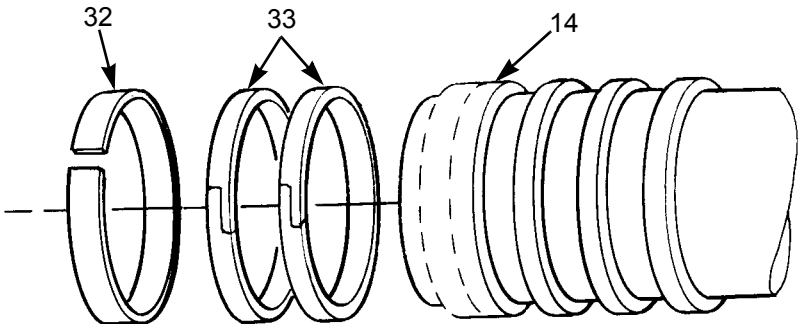
NOTE

Hydraulic cylinder disassembly tools will fall free as sleeve, with bottom retaining ring, is removed from barrel.

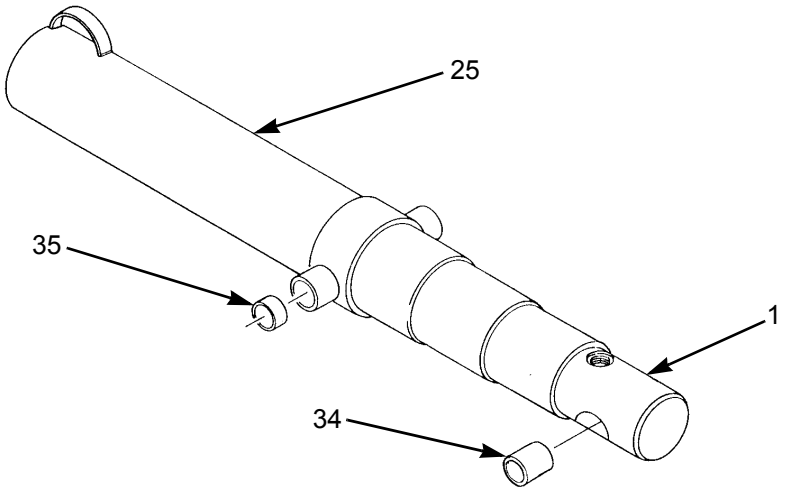
25. Remove sleeve (14) from barrel (25). Remove bottom retaining ring (31) from sleeve.



26. Remove wear ring (32) and two piston rings (33) from other end of sleeve (14). Discard wear ring.



27. If worn or damaged, remove two bushings (35) from barrel (25) and bushing (34) from plunger (1).



5-7. HYDRAULIC CYLINDER REPAIR (Con't).

b. CLEANING AND INSPECTION

Clean and inspect components in accordance with Chapter 4, Section III, *General Maintenance Instructions*.

c. ASSEMBLY

WARNING

- **Use extreme care when handling heavy parts. Lifting cables, chains, hooks, and slings must be in good condition and of suitable capacity. Keep clear of parts supported only by lifting device. Failure to follow this warning may result in death or injury to personnel and damage to equipment.**
- **Hydraulic cylinder sleeves may extend downward as hydraulic cylinder is lifted. Expect sleeve movement any time hydraulic cylinder is handled. Failure to do so may result in serious injury to personnel.**

NOTE

- **Apply a light coat of lubricating oil to surfaces of components as they are assembled.**
- **Assemble hydraulic cylinder starting with the largest diameter sleeve and working inward.**

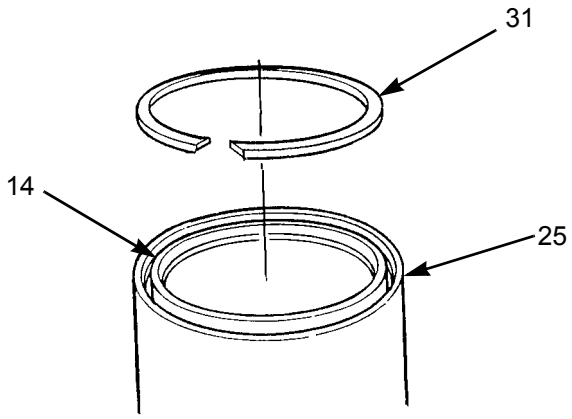
1. If removed, install two bushings (35) to barrel (25) and bushing (34) to plunger (1).

NOTE

Perform steps 2 thru 7 to install largest diameter sleeve.

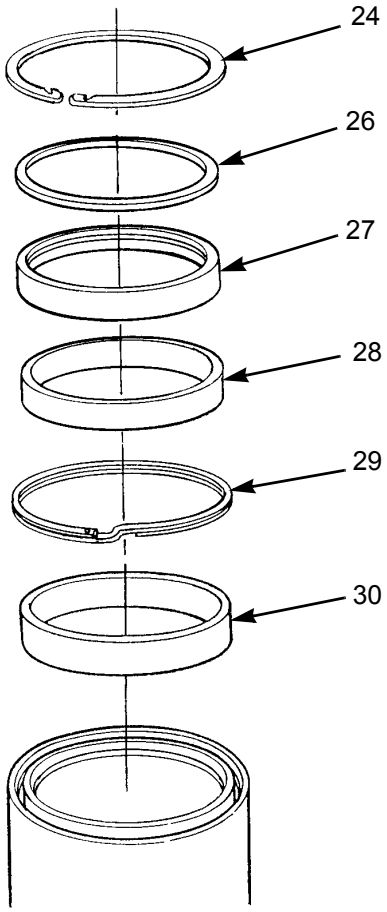
2. With hydraulic cylinder components in horizontal position, install two piston rings (33) and new wear ring (32) to sleeve (14).

3. Install sleeve (14) to barrel (25) and install bottom retaining ring (31) to barrel using 5 in. seal installation tool.



5-7. HYDRAULIC CYLINDER REPAIR (Con't).

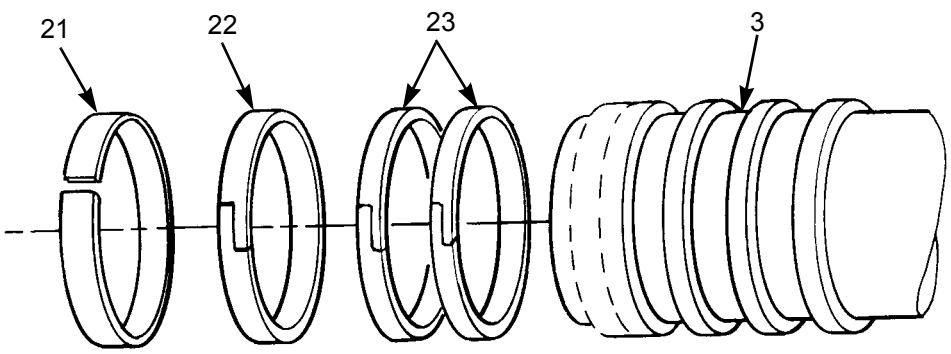
4. Install new bottom guide ring (30) and new spiral retaining ring (29).
5. Install new seal (28).
6. Install new wiper (26) to new wiper retainer (27) and install wiper retainer.
7. Install retaining ring (24).



NOTE

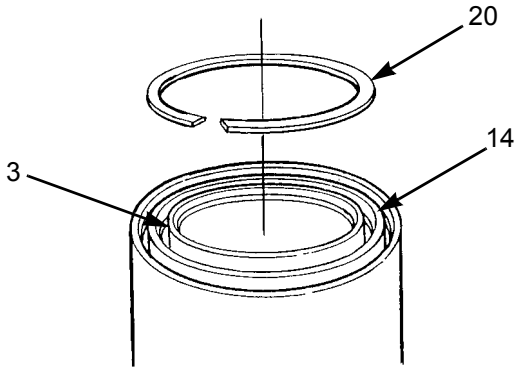
Perform steps 8 thru 13 to install next sleeve.

8. Install two piston rings (23), piston ring (22), and new wear ring (21) to sleeve (3).

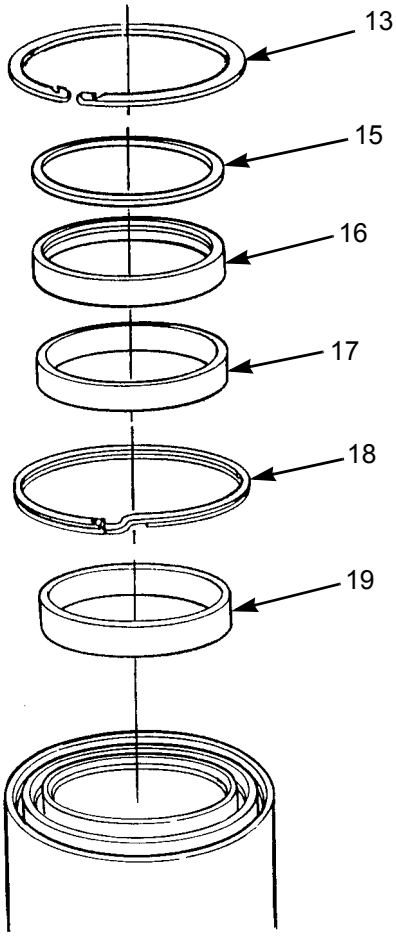


5-7. HYDRAULIC CYLINDER REPAIR (Con't).

9. Install sleeve (3) to sleeve (14) and install bottom retaining ring (20) to sleeve (14) using 4 in. seal installation tool.



10. Install new bottom guide ring (19) and new spiral retaining ring (18).
11. Install new seal (17).
12. Install new wiper (15) to new wiper retainer (16) and install wiper retainer.
13. Install retaining ring (13).

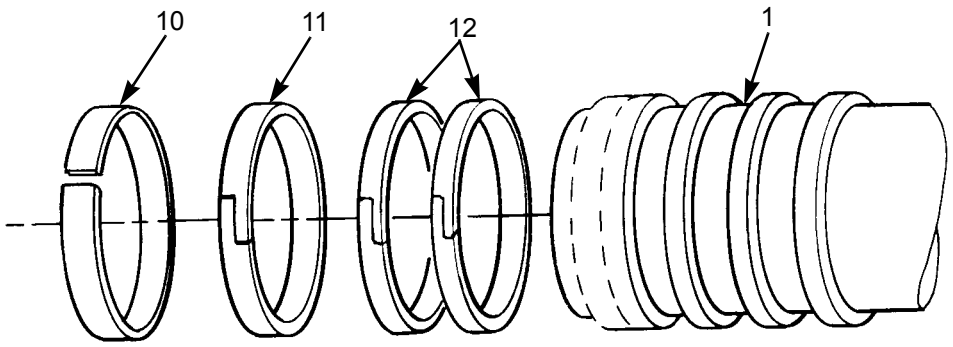


5-7. HYDRAULIC CYLINDER REPAIR (Con't).

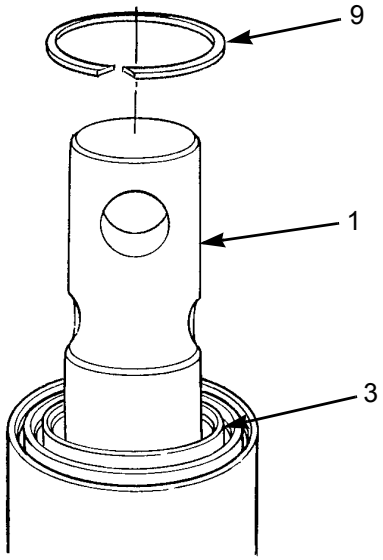
NOTE

Perform steps 14 thru 19 to install plunger.

14. Install two piston rings (12), piston ring (11), and new wear ring (10) to plunger (1).

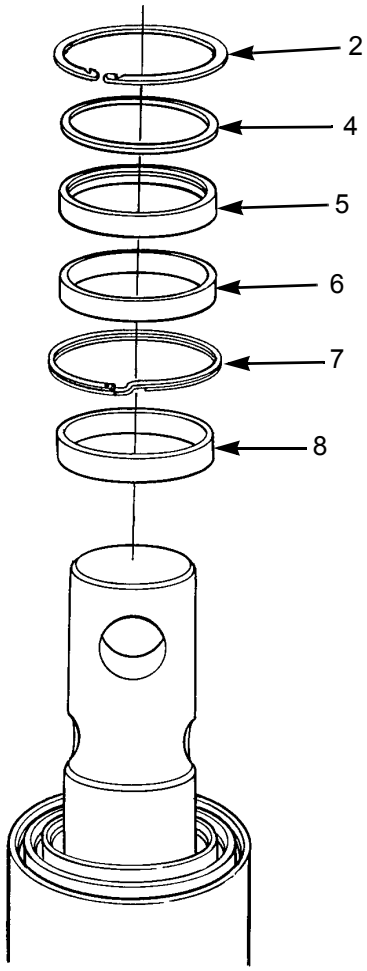


15. Install plunger (1) to sleeve (3) and install bottom retaining ring (9) to sleeve using 3 in. seal installation tool.



5-7. HYDRAULIC CYLINDER REPAIR (Con't).

16. Install new bottom guide ring (8) and new spiral retaining ring (7).
17. Install new seal (6).
18. Install new wiper (4) to new wiper retainer (5) and install wiper retainer.
19. Install retaining ring (2).



FOLLOW-ON TASKS:

- Install hydraulic cylinder (paragraph 5-6).

CHAPTER 6
GENERAL SUPPORT MAINTENANCE

There is no General Support Maintenance for the M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS dump truck body.

APPENDIX A
REFERENCES

A-1. SCOPE.

This appendix lists all forms, field manuals, technical manuals, and other publications referenced in this manual and that apply to the operation and maintenance of the M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Truck Body.

A-2. PUBLICATION INDEX.

DA Pam 25-30, *Consolidated Index of Army Publications and Blank Forms*, should be consulted frequently for latest changes or revisions and for new publications relating to material covered in this technical manual.

A-3. FORMS.

Refer to DA Pam 738-750, *Functional Users Manual for the Army Maintenance Management System (TAMMS)*, for instructions on the use of maintenance forms.

Equipment Control Record . . . . . DA Form 2408-9
Equipment Inspection and Maintenance Worksheet . . . . . DA Form 2404
Equipment Log Assembly (Records) . . . . . DA Form 2408
Maintenance Request . . . . . DA Form 2407
Preventive Maintenance Schedule and Record . . . . . DD Form 314
Processing and Deprocessing Record for Shipment, Storage and Issue of Vehicles and Spare Engines . . . . . DD Form 1397
Product Quality Deficiency Report. . . . . SF Form 368
Recommended Changes to Equipment Technical Publications . . . . . DA Form 2028-2
Recommended Changes to Publications and Blank Forms . . . . . DA Form 2028
Report of Discrepancy (ROD) . . . . . SF Form 364

A-4. FIELD MANUALS.

Basic Cold Weather Manual . . . . . FM 31-70
Chemical and Biological Contamination Avoidance . . . . . FM 3-3
Field Behavior of NBC Agents (Including Smoke and Incendiaries) . . . . . FM 3-6
First Aid Manual. . . . . FM 4-25.11
General Fabric Repair . . . . . FM 10-16
NBC Decontamination . . . . . FM 3-5
NBC Protection . . . . . FM 3-4
Northern Operations . . . . . FM 31-71
Operation and Maintenance of Ordnance Materiel in Cold Weather (0° F to -65° F) . . . . . FM 9-207
Operational Terms and Symbols . . . . . FM 101-5-1
Railway Operating and Safety Rules . . . . . FM 55-21
Visual Signals . . . . . FM 21-60

A-5. TECHNICAL BULLETINS.

Color, Marking, and Camouflage Painting of Military Vehicles, Construction Equipment, and Materiels Handling Equipment . . . . . TB 43-0209

Corrosion Prevention and Control Including Rustproofing Procedures for Tactical Vehicles and Trailers . . . . . TB 43-0213

Equipment Improvement Report and Maintenance Digest (U.S. Series Army Tank-Automotive Command) Tank-Automotive Equipment . . . . TB 43-0001-39-Series

Warranty Program for M915 Family of Vehicles . . . . . TB 9-2320-363-15

A-6. TECHNICAL MANUALS.

Direct and General Support Maintenance Manual for M915A2, M916A1, M916A2, M917A1, and M917A1 wMCS, Chassis. . . . . TM 9-2320-363-34

Inspection, Care, and Maintenance of Antifriction Bearings . . . . . TM 9-214

Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Materiel and Related Materials Including Chemicals. . . . . TM 9-247

Operator's Manual for M915A2, M916A1, M916A2, M917A1, and M917A1 wMCS, Chassis . . . . . TM 9-2320-363-10

Operator's Manual for M915A3, M916A3, M917A2, and M917A2 wMCS, Chassis . . . . . TM 9-2320-302-10

Operator's Manual for Welding Theory and Application . . . . . TM 9-237

Painting Instructions for Army Materiel . . . . . TM 43-0139

Procedures for Destruction of Equipment to Prevent Enemy Use (Mobility Equipment Command) . . . . . TM 750-244-3

Railcar Loading Procedures . . . . . TM 55-601

Storage and Materials Handling . . . . . TM 743-200-1

Unit, Direct Support, and General Support Repair Parts and Special Tools List for M915A2, M916A1, M916A2, M917A1, and M917A1 wMCS, Chassis . . . . . TM 9-2320-363-24P

Unit, Direct Support, and General Support Repair Parts and Special Tools List for M915A3, M916A3, M917A2, and M917A2 wMCS, Chassis . . . . . TM 9-2320-302-24P

Unit Maintenance Manual for M915A2, M916A1, M916A2, M917A1, and M917A1 wMCS, Chassis . . . . . TM 9-2320-363-20

Unit Maintenance Manual for M915A3, M916A3, M917A2, and M917A2 wMCS, Chassis . . . . . TM 9-2320-302-20

A-7. OTHER PUBLICATIONS.

Abbreviations and Acronyms. . . . . ASME Y14.38-1999

Army Medical Department Expendable/Durable Items . . . . . CTA 8-100

Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items). . . . . CTA 50-970

Fuels and Lubricants Standardization Policy for Equipment Design, Operation, and Logistic Support . . . . . AR 70-12

Military Standard Abbreviations for Use on Drawings, Specifications, Standards, and in Technical Documents MIL-STD-12D

Prevention of Motor Vehicle Accidents . . . . . AR 385-55

APPENDIX B
MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B-1. THE ARMY MAINTENANCE SYSTEM MAINTENANCE ALLOCATION CHART (MAC).

a. This introduction (Section I) provides a general explanation of all maintenance and repair functions authorized at the two maintenance levels under the Two-Level Maintenance system concept.

b. The Maintenance Allocation Chart (MAC) in Section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Field - includes subcolumns:

C - Operator/Crew
O - Unit
F - Direct Support

Sustainment - includes subcolumns:

H - General Support
D - Depot

c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from Section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS.

Maintenance functions are limited to and defined as follows:

a. **Inspect.** To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).

b. **Test.** To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item/end item and comparing those characteristics with prescribed standards.

c. **Service.** Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

d. **Adjust.** To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.

e. **Aline.** To adjust specified variable elements of an item to bring about optimum or desired performance.

B-2. MAINTENANCE FUNCTIONS (Con't).

f. **Calibrate.** To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. **Remove/Install.** To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing onto position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. **Replace.** To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and assigned maintenance level is shown as the 3d position code of the SMR code.

i. **Repair.** The application of maintenance services[1] including fault location/troubleshooting[2], removal/installation, and disassembly/assembly[3] procedures, and maintenance actions[4] to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. **Overhaul.** That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in the appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. **Rebuild.** Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II.

a. **Column (1) - Group Number.** Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly.

b. **Column (2) - Component/Assembly.** Column 2 contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. **Column (3) - Maintenance Function.** Column 3 lists the functions to be performed on the item listed in Column 2. (For detailed explanation of these functions, see paragraph B-2).

1. Services—Inspect, test, service, adjust, aline, calibrate, and/or replace.
2. Fault location/troubleshooting—The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or unit under test (UUT).
3. Disassembly/assembly—The step-by-step breakdown (taking apart) of a spare/function group coded item to the level of its least component, that is assigned an SMR code for the level or maintenance under consideration (i.e., identified as maintenance significant).
4. Actions—Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II (Con't).

NOTE

When a complete replace or repair task performed at higher level maintenance includes lower level maintenance tasks (equipment condition/follow-on tasks), the lower level work time figures in the MAC must be added to the higher level work time shown in the MAC to determine the total to accomplish that maintenance function.

d. **Column (4) - Maintenance Level.** Column 4 specifies each level of maintenance authorized to perform each function listed in Column 3, by indicating a work time required (expressed as man-hours in whole hours or decimals) in the appropriate subcolumn. This work-time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate work-time figures are shown for each level. The work-time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (equipment condition/follow-on tasks) (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the MAC. The symbol designations for the various maintenance levels are as follows:

Field - includes subcolumns:

C - Operator/Crew
O - Unit
F - Direct Support

Sustainment - includes subcolumns:

H - General Support
D - Depot

e. **Column (5) - Tools and Test Equipment Reference Code.** Column 5 specifies, by code, those common tool sets (not individual tools), common TMDE, and special tools, special TMDE, and special support equipment required to perform the designated function. Codes are keyed to Tools and Test Equipment in Section III.

f. **Column (6) - Remarks.** When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks contained in Section IV.

B-4. EXPLANATION OF COLUMNS IN TOOLS AND TEST EQUIPMENT REQUIREMENTS, SECTION III.

a. **Column (1) - Tool or Test Equipment Reference Code.** The tool or test equipment reference code correlates with a code used in the MAC, Section II, column (5).

b. **Column (2) - Maintenance Level.** The lowest level of maintenance authorized to use the tool or test equipment.

c. **Column (3) - Nomenclature.** Name or identification of the tool or test equipment.

d. **Column (4) - National Stock Number.** The National Stock Number of the tool or test equipment.

e. **Column (5) - Tool Number.** The manufacturer's part number, model number, or type number.

B-5. EXPLANATION OF COLUMNS IN REMARKS, SECTION IV.

a. **Column (1) - Remarks Code.** The code recorded in Section II, column (6).

b. **Column (2) - Remarks.** This column, along with the related codes, clarifies maintenance and inspection functions by different MOS involved in maintaining some components.

Section II. MAINTENANCE ALLOCATION CHART

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			FIELD			SUSTAINMENT			
			Unit		DS	GS	Depot	Tools and Equipment Ref Code	
Group Number	Component/ Assembly	Maintenance Function	C	O	F	H	D		Remarks
06	***Electrical System***								
0608	*Miscellaneous Items*								
	Control Unit, MCS	Inspect	0.1						
		Replace		0.5				1	
		Repair		1.0				1	
0609	*Lights*								
	Taillight	Inspect	0.1						
		Replace		0.3				1	
	Marker Clearance Light	Inspect	0.1						
		Replace		0.3				1	
0610	*Sending Units and Warning Switches*	Replace		0.3				1	
0613	*Hull or Chassis Wiring Harness*								
	Harness, Lights	Replace		1.0				1	
		Repair		0.3				1,2	
	Harnesses, MCS	Replace		0.5				1	
		Repair		0.5				1,2	
	Harness, Body Up/ Transport Lock	Replace		0.3				1	
		Repair		0.3				1,2	
18	***Body, Cab, Hood, and Hull***								
1810	*Cargo Body*								
	Dump Body Assembly	Replace			4.0			1,3	
		Repair			1.0			1,3	
	Cylinder Support Frame	Replace			1.0			1,3	

Section II. MAINTENANCE ALLOCATION CHART (Con't)

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			FIELD			SUSTAINMENT			
			Unit		DS	GS	Depot	Tools and Equipment	
Group Number	Component/ Assembly	Maintenance Function	C	O	F	H	D	Ref Code	Remarks
1810 (Con't)	*Cargo Body*								
	Tailgate, MCS	Inspect	0.1						
		Replace		1.0				1,2	
		Repair		0.5				1,2	
	Air Cylinder, Tailgate Release	Replace		0.5				1	
		Repair		0.8				1	
	Air Cylinder, MCS	Replace		0.5				1	
		Repair		1.0				1	
	Air Lines/Hoses	Replace		0.5				1	
22	***Body, Chassis, and Hull Accessory Items***								
2201	*Canvas, Rubber, or Plastic Items*								
	Cargo Cover	Inspect	0.1						
		Replace		0.5				1	
		Repair			0.5			3	
	Support Frame/Rollers	Replace		0.7				1	
		Repair		0.7				1	
	Crank Assembly	Replace		0.7				1	
		Repair		1.0				1	
2210	*Data Plates and Instruction Holders*	Replace		0.3				1	

Section II. MAINTENANCE ALLOCATION CHART (Con't)

(1)	(2)	(3)	(4) Maintenance Level					(5)	(6)
			FIELD			SUSTAINMENT			
			Unit		DS	GS	Depot	Tools and Equipment	
Group Number	Component/ Assembly	Maintenance Function	C	O	F	H	D	Ref Code	Remarks
24	***Hydraulic and Fluid Systems***								
2401	*Pump and Motor*								
	Hydraulic Pump Assembly	Replace			1.0			1,3	
		Repair			1.0			1,3	
2403	*Hydraulic Controls and/or Manual Controls*								
	Dump Control Assembly	Replace		0.5				1	
		Repair		0.1				1	
2406	*Strainers, Filters, Lines, and Fittings*								
	Filter Assembly	Service		0.3				1	
		Replace		0.5				1	
		Repair		0.3				1	
	Hoses/Fittings	Replace		0.3				1,2	
2407	*Hydraulic Cylinders*								
	Cylinder Assembly	Replace			2.0			1,3	
		Repair			2.0			1,3,4,5,6,	
2408	*Liquid Tanks or Reservoirs*								
	Reservoir Assembly	Replace		0.5				1,2	
		Repair		0.5				1	

Section III. TOOLS AND TEST EQUIPMENT REQUIREMENTS

Tool or Test Equipment Reference Code	Maintenance Level	Nomenclature	National Stock Number	Tool Number
1	O, F,H	Tool Kit, General Mechanic's: Automotive SC 5180-90-CL-N26	5180-00-177-7033	W33004
2	O	Shop Equipment, Automotive Maintenance and Repair: Common No. 1, Less Power SC 4910-95-CL-A74	4910-00-754-0654	W32593
3	F,H	Shop Equipment, Automotive Maintenance and Repair: Field Maintenance, Basic, Less Power SC 4910-95-A31	4910-00-754-0705	T24660
		SPECIAL TOOLS		
4	F	Installer, Seal: 3-Inch		J42381
5	F	Installer, Seal: 4-Inch		J42382
6	F	Installer, Seal: 5-Inch		J42383

Section IV. REMARKS

None.

APPENDIX C
REPAIR PARTS AND SPECIAL TOOLS LISTS (RPSTL)

Section I. INTRODUCTION

C-1. SCOPE.

This Repair Parts and Special Tools Lists (RPSTL) lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of Unit, Direct Support, and General Support Maintenance of the M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Truck Body. It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the Source, Maintenance and Recoverability (SMR) codes.

C-2. GENERAL.

In addition to Section I, Introduction, this RPSTL is divided into the following sections:

a. **Section II, Repair Parts List.** A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed by item name sequence at the end of the section. Repair part kits are listed separately in their own functional group within Section II. Repair parts for reparable special tools are also listed in this section. Items listed are shown on the associated illustration(s)/figure(s).

b. **Section III, Special Tools List.** A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL [as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE ON CODE (UOC) column] for the performance of maintenance. Not applicable. Refer to TM 9-2320-363-24P.

c. **Section IV, Cross-Reference Indexes.** A list, in National Item Identification Number (NIIN) sequence, of all National stock numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National Stock Numbers (NSN) and part numbers are cross-referenced to each illustration/figure and item number appearance.

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III).

a. **ITEM NO - Column (1).** Indicates the number used to identify items called out in the illustration.

b. **SMR CODE - Column (2).** The SMR code is a five-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instruction, as shown in the following breakout:

Source Code	Maintenance Code		Recoverability Code
XXxxx	xxXXx		xxxxX
1st two positions	3d position	4th position	5th position
How you get an item.	Who can install, replace or use the item.	Who can do complete repair* on the item.	Who determines disposition action on an unserviceable item.

* *Complete Repair:* Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the *"Repair"* function in a use/user environment in order to restore serviceability to a failed item.

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

(1) **Source Code.** The source code tells you how to get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

Code		Application/Explanation
PA PB PC** PD PE PF PG		Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the maintenance category indicated by the code entered in the third position of the SMR code. ***Items coded PC are subject to deterioration.*
KD KF KB		Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the third position of the SMR code. The complete kit must be requisitioned and applied.
MO- MF- MH- ML- MD-	Made at UM/AVUM Level Made at DS/AVUM Level Made at GS Level Made at Specialized Repair Activity (SRA) Made at Depot	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk materiel which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the bulk materiel group of the repair parts list in this RPSTL. If the item is authorized to you by the third position of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.
AO- AF- AH- AL AD	Assembled by UM/AVUM Level Assembled by DS/AVUM Level Assembled by GS Level Assembled by SRA Assembled at Depot	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the third position code of the SMR code authorizes you to replace the items, but the source code indicates that the item is assembled at a higher level, order the item from the higher level of maintenance

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

NOTE

Cannibalization of controlled exchange, when authorized, may be used as a source of supply for items with the following source codes, except for those source coded "XA".

Code	Application/Explanation
XA	DO NOT requisition an "XA"-coded item. Order its next higher assembly.
XB	In an "XB" item is not available from salvage, order it using the CAGEC and part number given.
XC	Installation drawing, diagram, instruction sheet or field service drawing that is identified by manufacturer's part number.
XD	Item is not stocked. Order an "XD"-coded item through normal supply channels using the CAGEC and part number given, if no NSN is available.

(2) **Maintenance Code.** Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following levels of maintenance:

Code	Application/Explanation
C	Operator or Crew Maintenance done within Unit Maintenance or aviation unit maintenance.
O	Unit Maintenance or aviation unit can remove, replace, and use the item.
F	Direct Support Maintenance or aviation intermediate maintenance can remove, replace, and use the item.
H	General Support Maintenance can remove, replace, and use the item.
L	Specialized Repair Activity (SRA) can remove, replace, and use the item.
D	Depot Maintenance can remove, replace, and use the item.

NOTE

Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.

(b) The maintenance code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., perform all authorized *"Repair"* functions). The maintenance code in the fourth position will indicate authorization to one of the following levels of maintenance:

Code	Application/Explanation
O	Unit Maintenance or aviation unit maintenance is the lowest level that can do complete repair of the item.
F	Direct Support Maintenance or aviation intermediate maintenance is the lowest level that can do complete repair of the item.

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

Code	Application/Explanation
H	General Support Maintenance is the lowest level that can do complete repair of the item.
L	Specialized Repair Activity (SRA) is the lowest level that can do complete repair of the item.
D	Depot Maintenance is the lowest level that can do complete repair of the item.
Z	Nonreparable. No repair is authorized.
B	No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B"-coded item.) However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

(3) **Recoverability Code.** Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR code as follows:

Code	Application/Explanation
Z	Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the third position of the SMR code.
O	Reparable item. When uneconomically reparable, condemn and dispose of the item at Unit Maintenance or aviation unit maintenance.
F	Reparable item. When uneconomically reparable, condemn and dispose of the item at Direct Support Maintenance or aviation intermediate maintenance.
H	Reparable item. When uneconomically reparable, condemn and dispose of the item at General Support Maintenance.
D	Reparable item. When beyond lower level repair capability, return to Depot Maintenance. Condemnation and disposal of item not authorized below Depot Maintenance.
L	Reparable item. Condemnation and disposal of item not authorized below Specialized Repair Activity (SRA).
A	Item requires special handling or condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. **NSN - Column (3).** Lists the National Stock Number assigned to the item. Use the NSN for requests/requisitions.

d. **CAGEC - Column (4).** The Commercial and Government Entity (CAGE) Code (C) is a five-digit alphanumeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

C-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

NOTE

When you use an NSN to requisition an item, the item you receive may have a different part number from the part ordered.

e. **PART NUMBER - Column (5).** Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity) which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

f. **DESCRIPTION AND USABLE ON CODE (UOC) - Column (6).** This column includes the following information:

(1) The Federal item name and, when required, a minimum description to identify the item.

(2) Physical security classification. Not applicable.

(3) Items that are included in kits and sets are listed below the name of the kit or set.

(4) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.

(5) Part numbers for bulk materiels are referenced in this column in the line item entry for the item to be manufactured/fabricated.

(6) When the item is not used with all serial numbers of the same model, the effective serial numbers are shown on the last line(s) of the description (before UOC). Not Applicable.

(7) The Usable On Code, when applicable (see paragraph 5, Special Information).

(8) In the Special Tools List section, the Basis of Issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipment supported exceeds density spread indicated in the Basis of Issue, the total authorization is increased proportionately.

(9) The statement "END OF FIGURE" appears just below the last item description in Column 6 for a given figure in both Section II and Section III.

g. **QTY - Column (7).** The QTY (quantity per figure) column indicates the quantity of the item used in the breakout shown on the illustration/figure, which is prepared for a functional group, subfunctional group, group or an assembly. A "V" appearing in this column in lieu of a quantity indicates that the quantity is variable and the quantity may vary from application to application.

C-4. EXPLANATION OF COLUMNS (SECTION IV).

a. **National Stock Number (NSN) Index.**

(1) **STOCK NUMBER Column.** This column lists the NSN by National Item Identification Number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN (i.e., NSN 5305-01-674-1467). When using this column to locate an item, ignore the first four digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

(2) **FIG. Column.** This column lists the number of the figure where the item is identified/located. The figures are in numerical order in Section II and Section III.

(3) **ITEM Column.** The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

b. **Part Number Index.** Part numbers in this index are listed by part number in ascending alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

C-4. EXPLANATION OF COLUMNS (SECTION IV) (Con't).

(1) **CAGEC Column.** The Commercial and Government Entity (CAGE) Code (C) is a five-digit alphanumeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

(2) **PART NUMBER Column.** Indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity) which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

(3) **STOCK NUMBER Column.** This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and CAGEC columns to the left.

(4) **FIG. Column.** This column lists the number of the figure where the item is identified/located in Section II and Section III.

(5) **ITEM Column.** The item number assigned to the item as it appears in the figure referenced in the FIG. column.

C-5. SPECIAL INFORMATION.

a. **Usable On Code.** The Usable On Code appears in the lower left corner of the DESCRIPTION column heading. Usable on codes are:

7A1	M917A1
7A2	M917A2
7E1	M917A1 w/MCS
7E2	M917A2 w/MCS

b. **Fabrication Instructions.** Bulk materiels required to manufacture items are listed in the bulk materiel functional group of this RPSTL. Part numbers for bulk materiels are also referenced in the Description column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in Appendix G.

c. **Assembly Instructions.** Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are found in Chapters 4 and 5. Items that make up the assembly are listed immediately following the assembly item entry or reference is made to an applicable figure.

d. **Kits.** Line item entries for repair kits appear in Group 9401 in Section II.

e. **Index Numbers.** Items which have the word BULK in the FIG. column will have an index number shown in the item column. This index number is a cross-reference between the National Stock Number Index, the Part Number Index, and the bulk materiel list in Section II.

f. **Associated Publications.** The publications listed below pertain to the M915 Family of Vehicles and its components:

Publication	Short Title
TM 9-2320-363-10	Operator's Manual for M915 Family of Vehicles
TM 9-2320-363-20	Unit Maintenance Manual for M915 Family of Vehicles
TM 9-2320-363-34	Direct Support and General Support Maintenance Manual for M915 Family of Vehicles
TM 9-2320-363-24P	Unit, Direct Support, and General Support RPSTL for M915 Family of Vehicles
TM 9-2320-302 Series	M915 Family of Vehicles IETM

C-6. HOW TO LOCATE REPAIR PARTS.

a. **When National Stock Number or Part Number is Not Known:**

(1) **First.** Using the Table of Contents, determine the assembly group or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.

(2) **Second.** Find the figure covering the assembly group or subassembly group to which the item belongs.

b. **When National Stock Number or Part Number is Known:**

(1) **First.** Using the National Stock Number Index or Part Number Index, find the pertinent NSN or part number. The NSN Index is in National Item Identification Number (NIIN) sequence [paragraph C-4a.(1)]. The part numbers in the Part Number Index are listed in ascending alphanumeric sequence (paragraph C-4b.). Both indexes cross-reference you to the illustration/figure and item number of the item you are looking for.

(2) **Second.** Turn to the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

C-7. ABBREVIATIONS.

For standard abbreviations see MIL-STD-12D, *Military Standard Abbreviations for Use on Drawings, Specifications, Standards, and in Technical Documents*.

Abbreviations	Explanation
NIIN	National Item Identification Number (consists of the last 9 digits of the NSN)
RPSTL	Repair Parts and Special Tools Lists

1 4
2-10 5-10

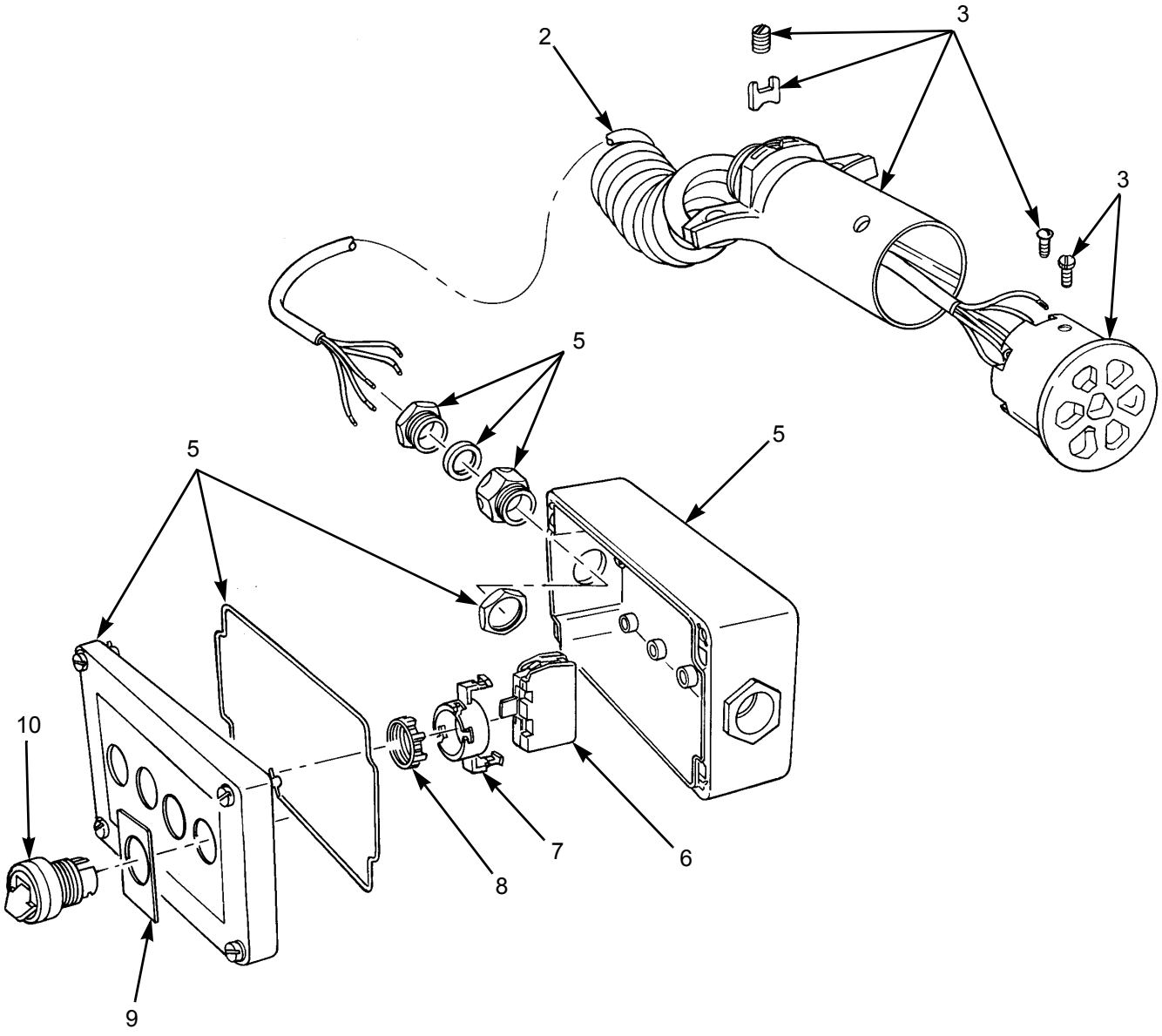
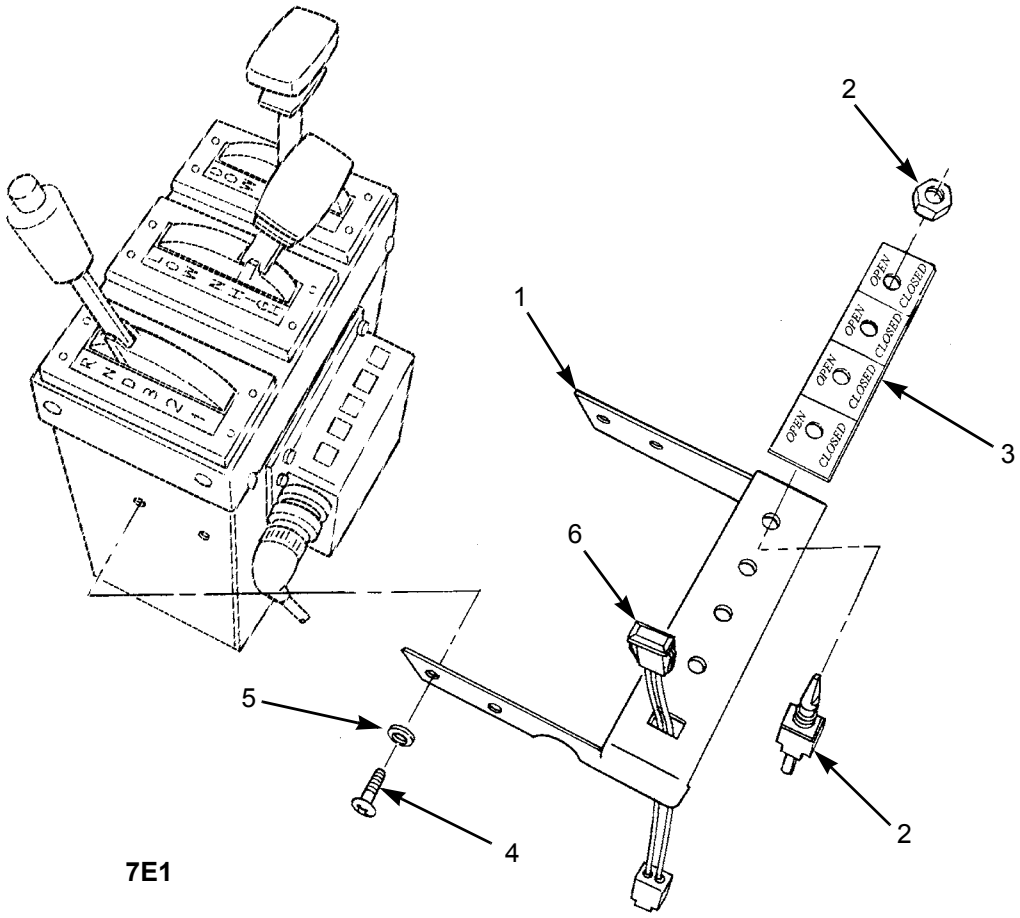


Figure 1. Control Unit Assembly, MCS.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 06 ELECTRICAL SYSTEM	
					GROUP 0608 MISCELLANEOUS ITEMS	
					FIG. 1 CONTROL UNIT ASSEMBLY, MCS	
1	PAOOZ	3040014595141	5X050	128214	CABLE ASSEMBLY,CONT..... UOC:7E1,7E2	1
2	PAOZA	6150014975582	5X050	403412	.CABLE ASSEMBLY,POWE..... UOC:7E1,7E2	1
3	PAOZZ	5935008563513	77326	11-700	.CONNECTOR,PLUG,ELEC..... UOC:7E1,7E2	1
4	PFOOZ	5930015076990	7J764	BNT22002	.SWITCH ASSEMBLY..... UOC:7E1,7E2	1
5	XDOZZ		7J764	BNT220	..COVER,ACCESS..... UOC:7E1,7E2	1
6	PAOZA	5925014993416	7J764	23E10	..CIRCUIT BREAKER..... UOC:7E1,7E2	4
7	PAOZZ	5999014665398	64678	BCI/231E	..CLIP,ELECTRICAL..... UOC:7E1,7E2	4
8	XDOZZ		7J764	CM10P	..NUT,GLAND,ELECTRICA..... UOC:7E1,7E2	4
9	PAOZZ	9905014987858	7J764	WE11H415E	..PLATE,IDENTIFICATIO OPEN/CLOSED-LEFT..... UOC:7E1,7E2	1
9	PAOZZ	9905014987857	7J764	WE11H416E	..PLATE,IDENTIFICATIO OPEN/CLOSED-LEFT CENTER..... UOC:7E1,7E2	1
9	PAOZZ	9905014987860	7J764	WE11H417E	..PLATE,IDENTIFICATIO OPEN/CLOSED-RIGHT CENTER..... UOC:7E1,7E2	1
9	PAOZZ	9905014987859	7J764	WE11H418E	..PLATE,IDENTIFICATIO OPEN/CLOSED-RIGHT..... UOC:7E1,7E2	1
10	PAOZZ	5930014970704	7J764	C21PA03	..SWITCH,TOGGLE..... UOC:7E1,7E2	4

END OF FIGURE



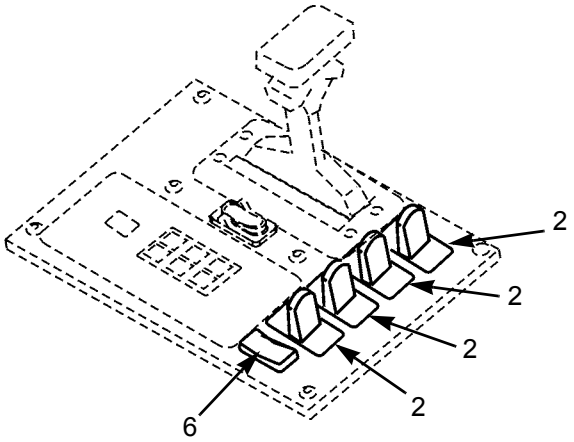


Figure 2. Control Switches, MCS.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 0608 MISCELLANEOUS ITEMS	
					FIG. 2 CONTROL SWITCHES, MCS	
1	XDOZZ		64678	06-24618-000	BRACKET,SWITCH PANE..... UOC:7A1,7E1	1
2	PAOZA	5930013320680	64678	681 545 07 22	SWITCH,TOGGLE..... UOC:7A1,7E1	4
2	PFOZZ	5930015204456	64678	A06-30769-101	SWITCH,TOGGLE..... UOC:7E2	4
3	XDOZZ		64678	24-00783-000	4X-MAT'L CTRL LABLE..... UOC:7A1,7E1	1
4	PFOZZ	5305014667940	64678	23-10864-706	SCREW,MACHINE 1/4-20 X 0.75 IN..... UOC:7A1,7E1	4
5	PAOZZ	5310003470021	99321	3507	WASHER,FLAT 1/4"..... UOC:7A1,7E1	4
6	PAOZA	6220014695480	64678	06-22309-048	LIGHT,INDICATOR MATERIAL CONTROL... UOC:7A1,7E1,7E2	1

END OF FIGURE

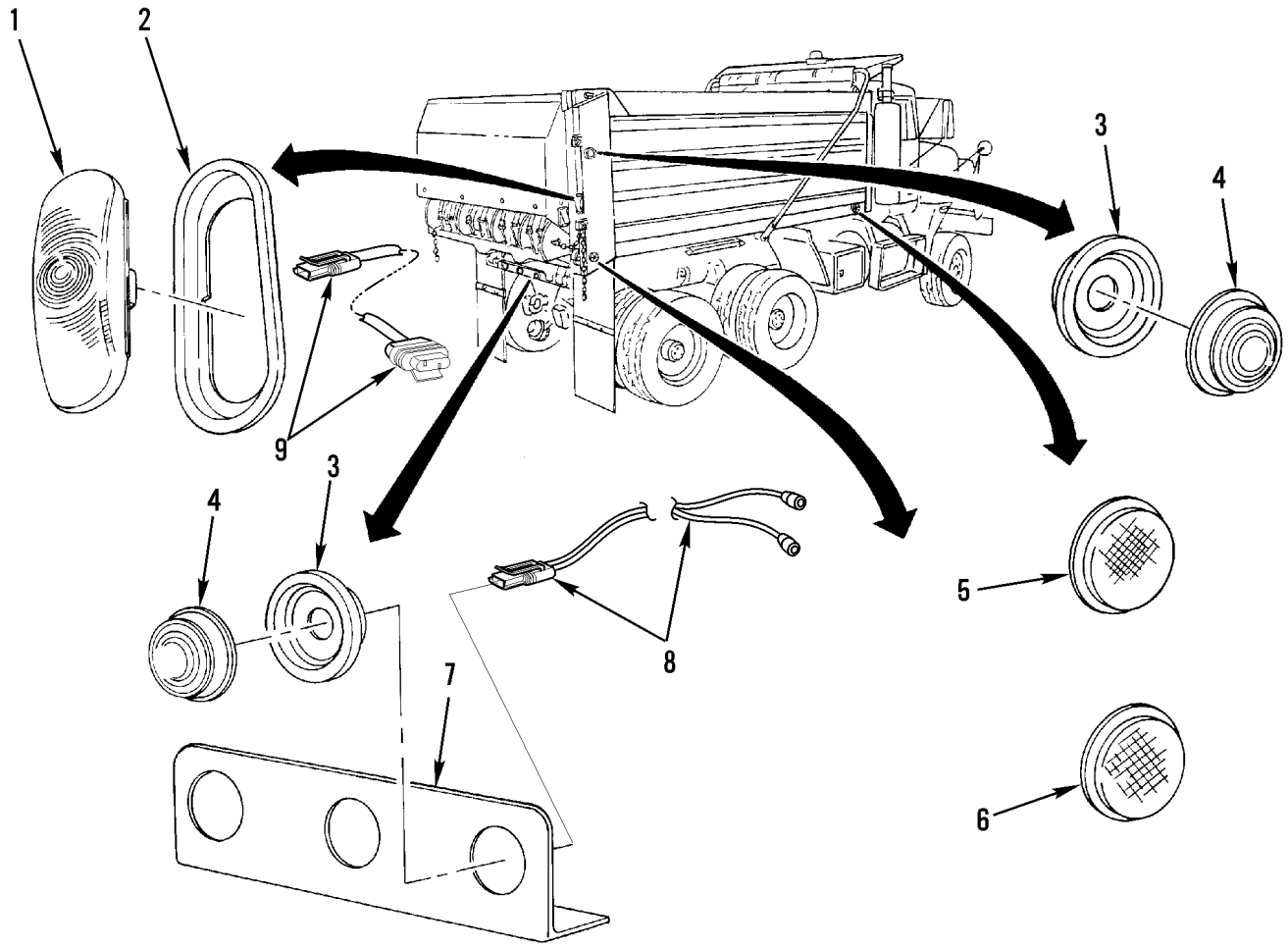


Figure 3. Taillights, Marker Lights and Reflectors.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 0609 LIGHTS	
					FIG. 3 TAILLIGHTS, MARKER LIGHTS AND REFLECTORS	
1	PAOZZ	6220010865691	13548	60202R	STOP LIGHT-TAILLIGH STOP/TURN/TAIL LIGHT ASSY..... UOC:7A1,7E1	2
1	PAOZA	6220015186827	13548	60085R	LAMP UNIT,VEHICULAR..... UOC:7A2,7E2	2
2	PAOZZ	5325011636558	13548	60700	GROMMET,NONMETALLIC.....	2
3	PAOZZ	5325012833513	12662	142-18	GROMMET.....	5
4	PAOZA	6240015186843	13548	10250R	LAMP,INCANDESCENT..... UOC:7A2,7E2	5
4	PAOZZ	6220010950011	13548	10004R	LIGHT,MARKER,CLEARA..... UOC:7A1,7E1	5
5	PAOZZ	6220014459978	12662	B490A	REFLECTOR,LIGHT AMBER.....	4
6	PAOZZ	6220014459981	12662	B490R	REFLECTOR,LIGHT RED.....	2
7	PFOZZ	5340014457781	5X050	238021	BRACKET,ANGLE.....	1
8	PAOZZ	5935015183692	13548	93745	CONNECTOR ASSEMBLY,..... UOC:7A2,7E2	5
9	PAOZZ	5935015183690	13548	94706	CONNECTOR ASSEMBLY,..... UOC:7A2,7E2	2

END OF FIGURE

1
2-11

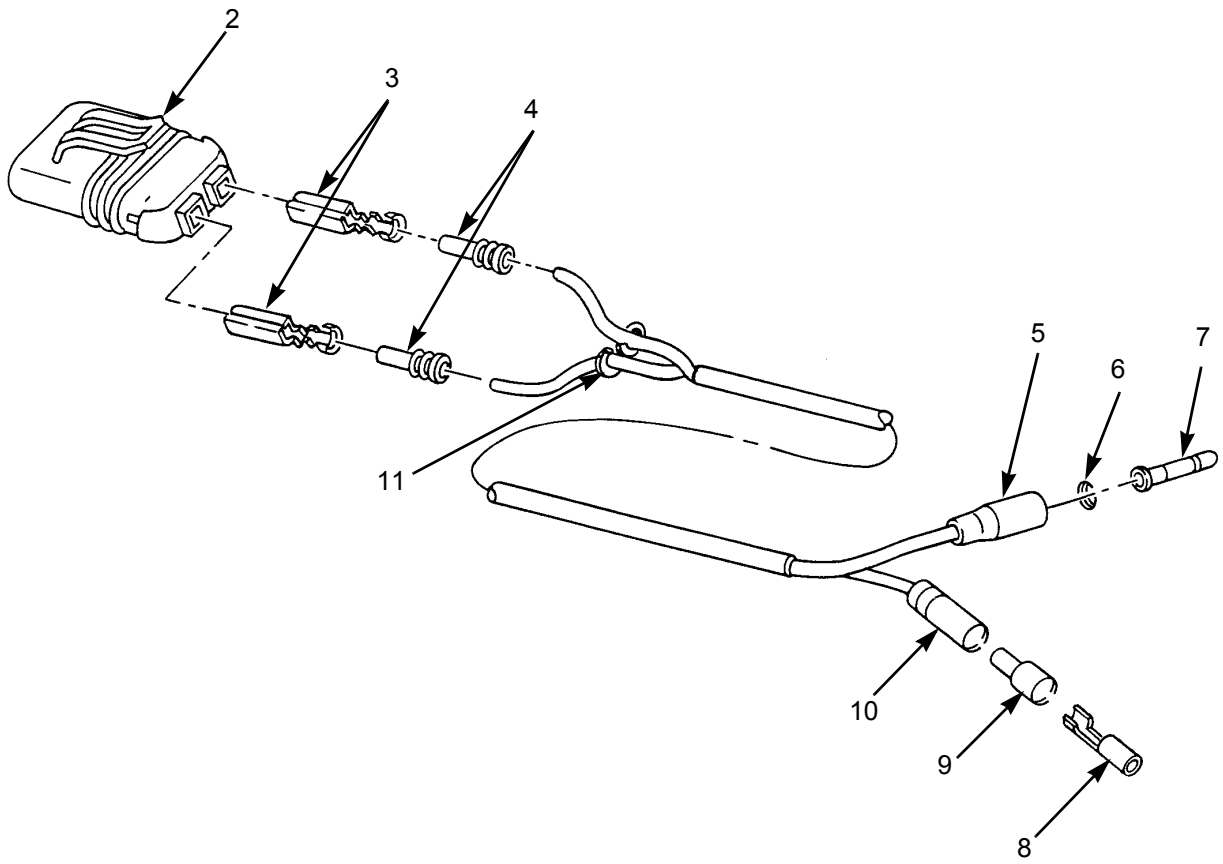


Figure 4. Wiring Harness, Beacon Light.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 0609 LIGHTS	
					FIG. 4 WIRING HARNESS, BEACON LIGHT	
1	PAOOO	6150014459130	5X050	403255	WIRING HARNESS,BRAN BEACON LIGHT...	1
2	PAOZZ	5935013087866	77060	15300027	.CONNECTOR BODY,PLUG.....	1
3	PAOZZ	5940014697988	77060	12129493	.TERMINAL,STUD.....	2
4	PAOZZ	5975012268078	77060	12010293	.BOOT,DUST AND MOIST.....	2
5	PAOZZ	5975012304370	5A910	8338566	.CABLE NIPPLE,ELECTR.....	1
6	PAOZZ	5310008338567	19207	8338567	.WASHER,SLOTTED.....	1
7	PAOZA	5999000572929	19204	572929	.CONTACT,ELECTRICAL NO. 14 WIRE GAGE.....	1
8	PAOZZ	5940003996676	19207	8338564	.TERMINAL SET,QUICK.....	1
9	PAOZZ	5970008338562	19207	8338562	.INSULATOR,BUSHING.....	1
10	PAOZZ	5935008338561	19207	8338561	.SHELL,ELECTRICAL CO.....	1
11	PAOZZ	5940014621718	77060	15300014	.TERMINAL,LUG.....	1

END OF FIGURE

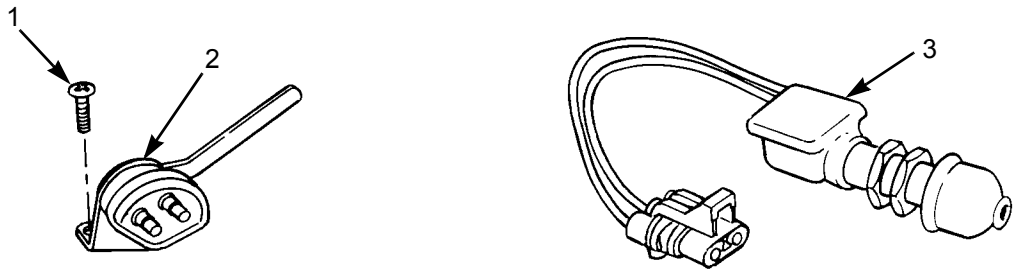


Figure 5. Bodyup and Transport Lock Switches.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 0610 SENDING UNITS AND WARNING SWITCHES	
					FIG. 5 BODYUP AND TRANSPORT LOCK SWITCHES	
1	PAOZZ	5305009897434	96906	MS35207-263	SCREW,MACHINE 10-32X0.50.....	2
2	PAOZA	5930013360919	13445	8486	SWITCH,LEVER.....	1
3	PAOZZ	5930014460980	5X050	129871	SWITCH,PUSH-PULL TRAVEL LOCK SWITCH	1

END OF FIGURE

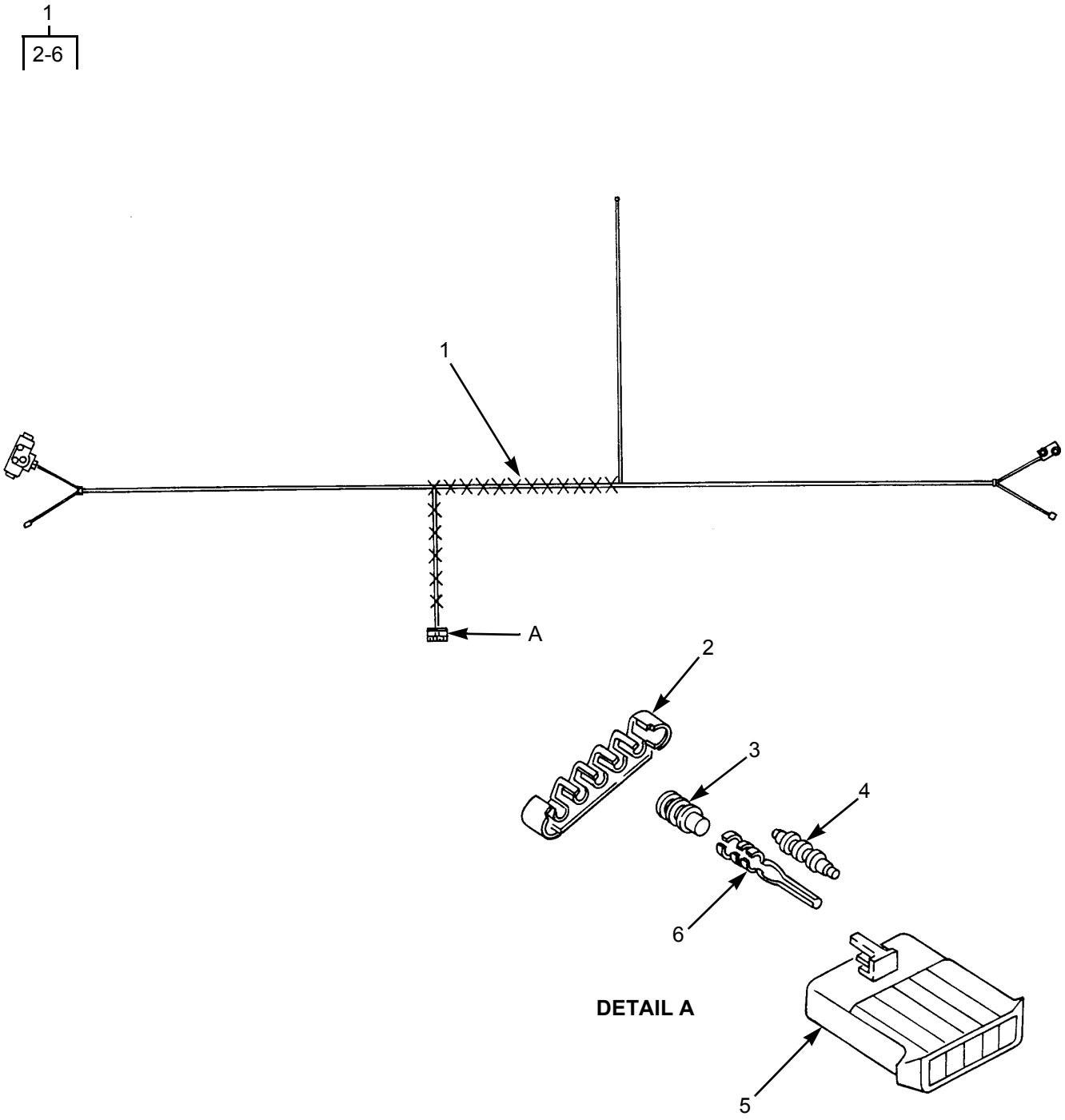


Figure 6. Wiring Harness, Dump Body Lights.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
					FIG. 6 WIRING HARNESS, DUMP BODY LIGHTS	
1	PAOZZ	6150014466345	5X050	403254	CABLE ASSEMBLY,SPEC DUMP BODY LIGHTS.....	1
2	XDOZZ		77060	12084673	.LOCK,SECONDARY.....	1
3	PAOZZ	5975013105011	77060	12015323	.BOOT,DUST AND MOIST.....	4
4	PAOZZ	5935013399574	77060	1201 0300	.PLUG,END SEAL,ELECT.....	1
5	XDOZZ		77060	12085036	.CONNECTOR,HOUSING.....	1
6	PAOZZ	5940014621717	77060	12048159	.TERMINAL,LUG.....	4

END OF FIGURE

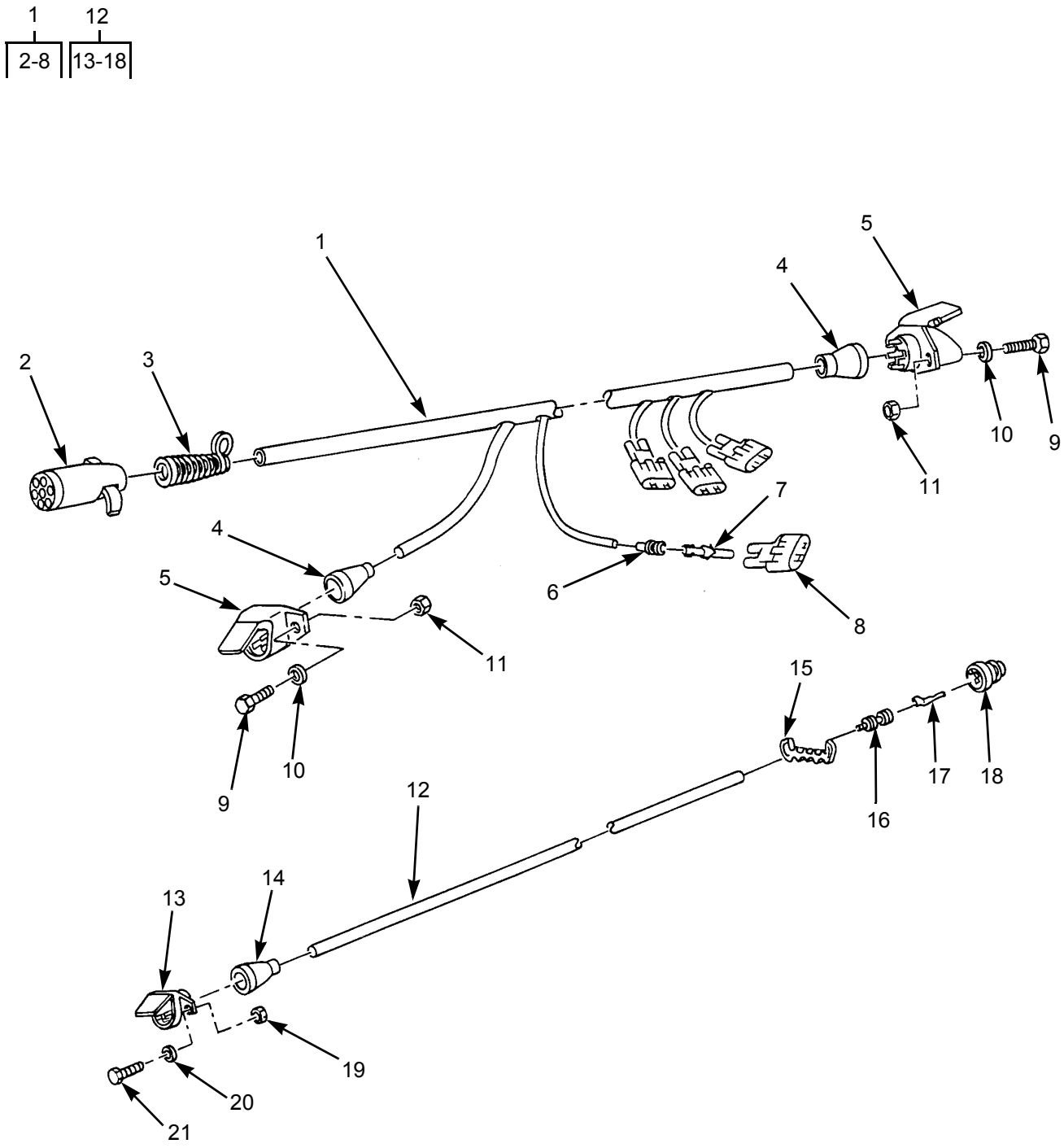


Figure 7. MCS Gate Harness and MCS Power Harness.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
					FIG. 7 MCS GATE HARNESS AND MCS POWER HARNESS	
1	PAOOA	6150014974886	5X050	403484	WIRING HARNESS,BRAN..... UOC:7E1,7E2	1
2	PAOZZ	5935008563513	77326	11-700	.CONNECTOR,PLUG,ELEC..... UOC:7E1,7E2	1
3	XDOZZ		77326	11-763	.SPRING,HELICAL,COMP..... UOC:7E1,7E2	1
4	PAOZZ	5975013556985	77326	11-761	.BOOT,DUST AND MOIST..... UOC:7E1,7E2	2
5	PAOZZ	5935001534397	77326	11-720	.CONNECTOR,RECEPTACL..... UOC:7E1,7E2	2
6	PAOZZ	5975013105011	77060	12015323	.BOOT,DUST AND MOIST..... UOC:7E1,7E2	8
7	PAOZZ	5999014229740	19207	12420936	.CONTACT,ELECTRICAL..... UOC:7E1,7E2	8
8	PAOZZ	5935012145259	77060	12015792	.CONNECTOR BODY,PLUG..... UOC:7E1,7E2	4
9	PAOZZ	5305000680508	80204	B1821BH025C075N	SCREW,CAP,HEXAGON H 1/4-20X0.75.... UOC:7A1,7E1,7E2	4
10	PAOZZ	5310008238804	96906	MS27183-9	WASHER,FLAT 1/4..... UOC:7A1,7E1,7E2	4
11	PAOZZ	5310000614650	45152	114356A	NUT,SELF-LOCKING,HE 1/4-20..... UOC:7A1,7E1,7E2	4
12	PAOOA	6150014974879	5X050	403248	CABLE ASSEMBLY,SPEC..... UOC:7A1,7E1,7E2	1
13	PAOZZ	5935001534397	77326	11-720	.CONNECTOR,RECEPTACL..... UOC:7A1,7E1,7E2	1
14	PAOZZ	5975013556985	77326	11-761	.BOOT,DUST AND MOIST..... UOC:7A1,7E1,7E2	1
15	XDOZZ		77060	12066304	.CONNECTOR,LOCKING..... UOC:7A1,7E1,7E2	1
16	PFOZZ	2530014649916	77060	1204 8086	.BOOT,VEHICULAR COMP..... UOC:7A1,7E1,7E2	7
17	PAOZZ	5940013661563	77060	12048074	.TERMINAL,QUICK DISC..... UOC:7A1,7E1,7E2	7
18	XDOZZ		77060	1204 7938	.CONNECTOR,PLUG,ELEC..... UOC:7A1,7E1,7E2	1
19	PAOZZ	5310000614650	45152	114356A	NUT,SELF-LOCKING,HE..... UOC:7A1,7E1,7E2	2
20	PAOZZ	5310008238804	96906	MS27183-9	WASHER,FLAT..... UOC:7A1,7E1,7E2	2
21	PAOZZ	5305000680508	80204	B1821BH025C075N	SCREW,CAP,HEXAGON H..... UOC:7A1,7E1,7E2	2

END OF FIGURE

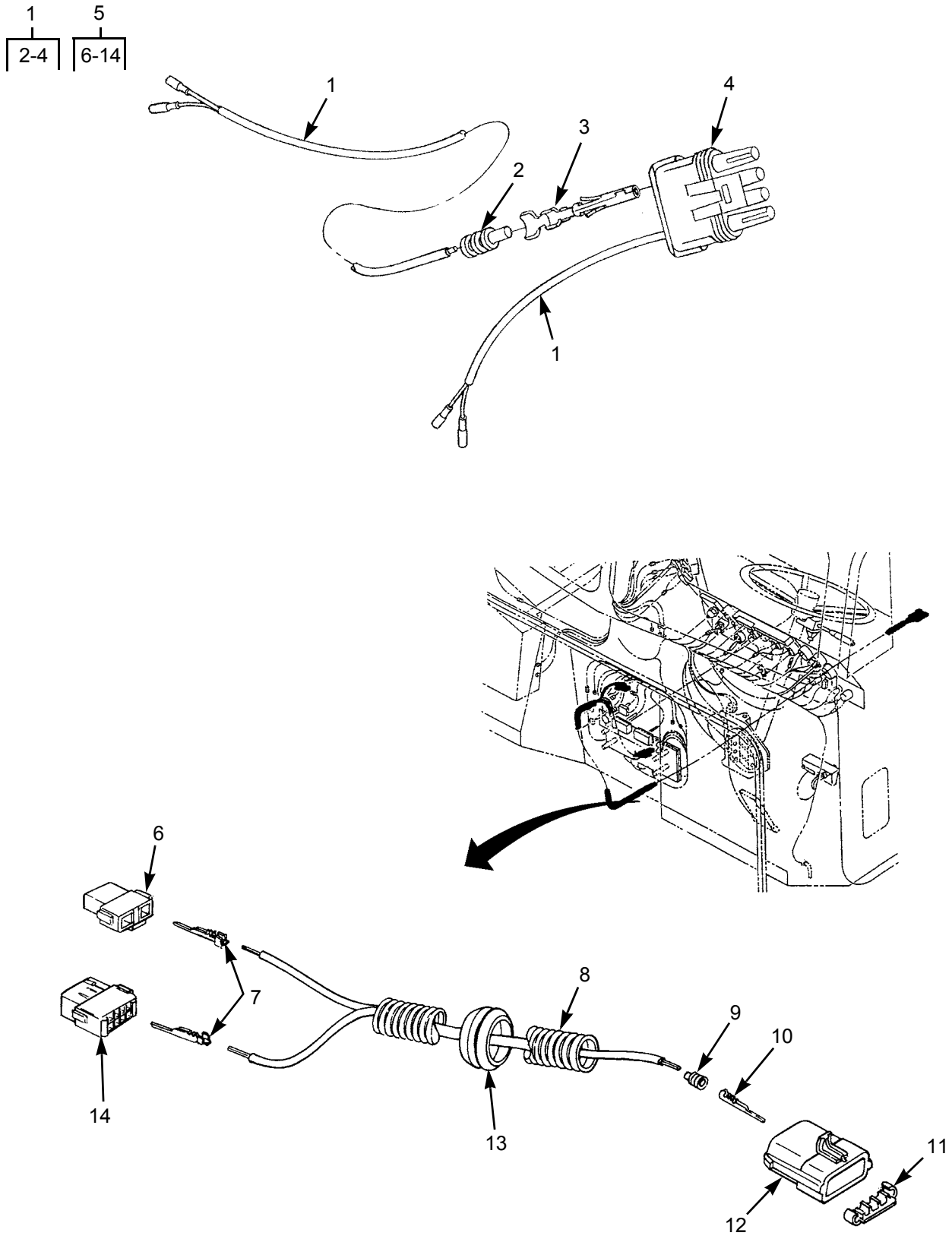


Figure 8. Bodyup/Transport Lock Harness and Material Control Chassis Harness.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 0613 HULL OR CHASSIS WIRING HARNESS	
					FIG. 8 BODYUP/TRANSPORT LOCK HARNESS AND MATERIAL CONTROL CHASSIS HARNESS	
1	PAOZZ	6150014466344	5X050	403256	LEAD ASSEMBLY,ELECT.....	1
2	PAOZZ	5975012268078	77060	12010293	.BOOT,DUST AND MOIST.....	4
3	PAOZZ	5999014229740	19207	12420936	.CONTACT,ELECTRICAL.....	4
4	PAOZZ	5935013088599	77060	1201 5797	.CONNECTOR BODY,PLUG.....	1
5	PFOOO	6150014669174	64678	A06-24606-276	WIRING HARNESS,BRAN..... UOC:7E1,7E2	1
6	XDOZZ		77060	12015199	PLUG,CONNECTOR,ELEC..... UOC:7E1,7E2	1
7	PAOZZ	5940013400587	77060	1202 0116	TERMINAL,QUICK DISC..... UOC:7E1,7E2	7
8	MOOZZ		77060	68240R-276	CONDUIT MAKE FROM BULK PN: 68240R.. UOC:7E1,7E2	1
9	PAOZZ	5325014468320	77060	12052924	GROMMET BLANK,NONME..... UOC:7E1,7E2	7
10	PAOZZ	5999013641237	77060	12045773	CONTACT,ELECTRICAL..... UOC:7E1,7E2	7
11	XDOZZ		77060	12047933	HOUSING, 8 PIN..... UOC:7E1,7E2	1
12	PAOZZ	5325001749341	70485	2872	GROMMET,NONMETALLIC..... UOC:7E1,7E2	1
13	PFOZZ	5935015180417	77060	12015344	CONNECTOR,PLUG,ELEC..... UOC:7E1,7E2	1

END OF FIGURE

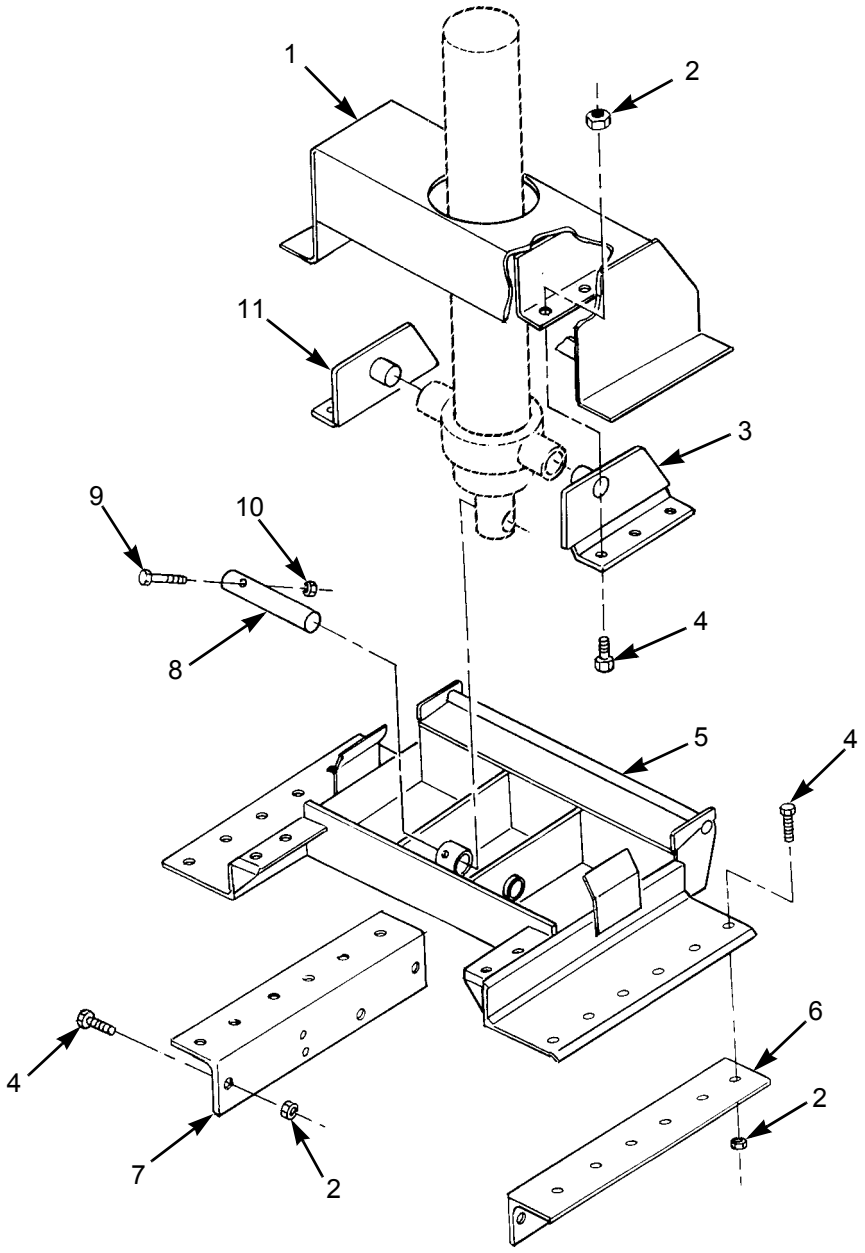


Figure 9. Cylinder Support Frame and Brackets.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 18 BODY, CAB, HOOD, AND HULL	
					GROUP 1810 CARGO BODY	
					FIG. 9 CYLINDER SUPPORT FRAME AND BRACKETS	
1	XDFZZ		5X050	128129	COVER ASSY,UPPER.....	1
2	PAFZZ	5310000614651	19207	12387349-43	NUT,SELF-LOCKING,HE 5/8-11.....	30
3	PFFZZ	5340014459486	5X050	128130	BRACKET,MOUNTING L.H.....	1
4	PAFZZ	5305007247222	80204	B1821BH063C200N	SCREW,CAP,HEXAGON H 5/8-11X2.0.....	30
5	XDFZZ		5X050	126617	CRADLE ASSEMBLY.....	1
6	XDFZZ		5X050	237386	BRACKET,ANGLE,LH L.H.....	1
7	XDFZZ		5X050	237387	BRACKET,ANGLE,RH R.H.....	1
8	PFFZZ	5315014463121	5X050	208047	PIN,SHOULDER,HEADLE.....	1
9	PAFZZ	5305000712076	80204	B1821BH050C325N	SCREW,CAP,HEXAGON H 1/2-13X3.25....	1
10	PAFZZ	5310004883889	96906	MS51943-39	NUT,SELF-LOCKING,HE 1/2-13.....	1
11	PFFZZ	5340014495470	5X050	128131	BRACKET,MOUNTING R.H.....	1

END OF FIGURE

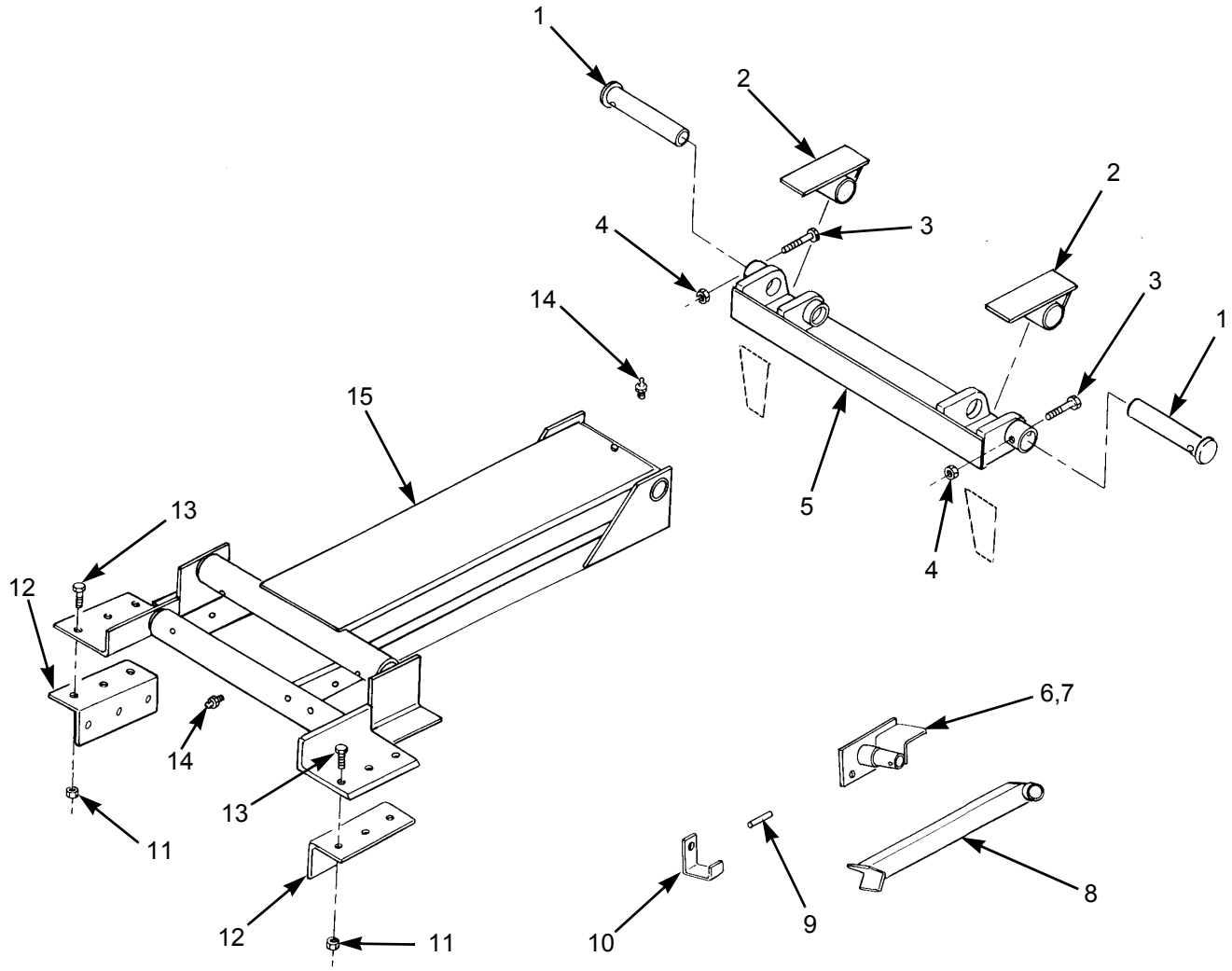


Figure 10. Stabilizer and Rear Hinge.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 1810 CARGO BODY	
					FIG. 10 STABILIZER AND REAR HINGE	
1	PFFZZ	5315014470480	5X050	127170	PIN,STRAIGHT,HEADED.....	2
2	XDFZZ		5X050	110543	HINGE ASSY,UPPER.....	2
3	PAFZZ	5305009474358	80204	B1821BH075C400N	SCREW,CAP,HEXAGON H 3/4-10X4.00....	2
4	PAFZZ	5310004093333	96906	MS51943-45	NUT,SELF-LOCKING,HE 3/4-10.....	2
5	XDFZZ		5X050	128125	HINGE ASSY,LOWER.....	1
6	XDOZZ		5X050	129305	PIVOT ASSY,LH L.H.....	1
7	XDOZZ		5X050	129306	PIVOT ASSY,RH R.H.....	1
8	PGOZZ	2510014461842	5X050	128126	LEG,PROP,BODY.....	2
9	PAOZZ	5315007218370	80205	NAS561-8-48	PIN,SPRING 1/4X3.00.....	2
10	XDOZZ		5X050	239693	BRACKET,SUPPORT.....	2
11	PAFZZ	5310000614651	19207	12387349-43	NUT,SELF-LOCKING,HE 5/8-11.....	12
12	XDFZZ		5X050	239694	BRACKET,ANGLE.....	2
13	PAFZZ	5305007247222	80204	B1821BH063C200N	SCREW,CAP,HEXAGON H 5/8-11X2.00....	12
14	PAOZZ	4730000504208	81343	AS15003-1	FITTING,LUBRICATION 1/8 NPT.....	5
15	XDFZZ		5X050	127838	STABILIZER ASSY.....	1

END OF FIGURE

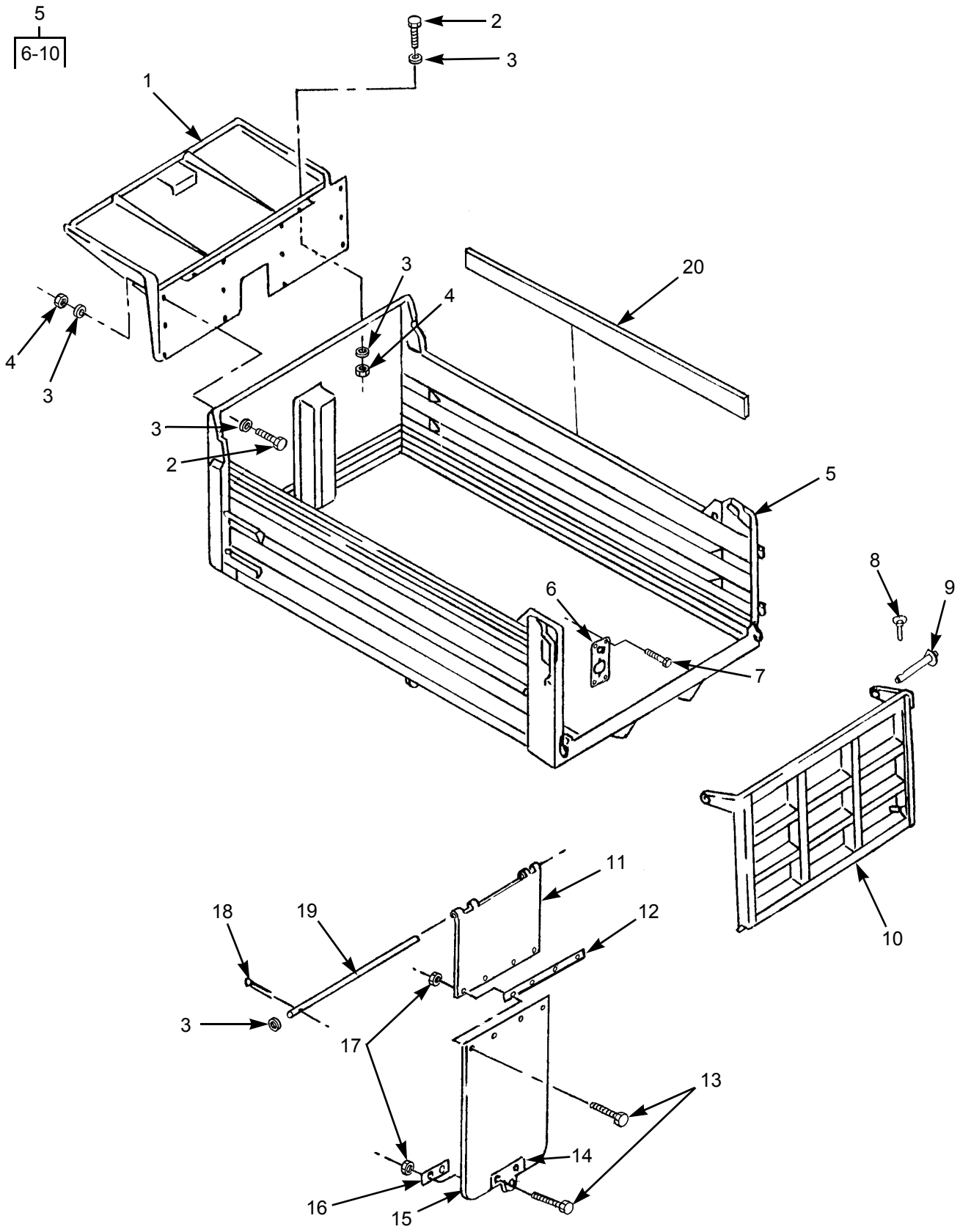


Figure 11. Dump Body Assembly.

	(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
						GROUP 1810 CARGO BODY	
						FIG. 11 DUMP BODY ASSEMBLY	
	1	XDOZZ		5X050	129568	CABSHIELD ASSEMBLY.....	1
	2	PAOZZ	5305007247222	80204	B1821BH063C200N	SCREW,CAP,HEXAGON H 5/8-11 X 2.00..	14
	3	PAOZZ	5310000039174	81348	FFW92	WASHER,FLAT 5/8.....	28
	4	PAOZZ	5310000614651	19207	12387349-43	NUT,SELF-LOCKING,HE 5/8-11.....	14
	5	XDFFF		5X050	126426	DUMP BOX W/STD GATE.....	1
						UOC:7A1,7A2	
	5	XDFFF		5X050	143893	DUMP BOX W/STD GATE.....	1
	5	XDFFF		5X050	126427	DUMP BOX W/MCS GATE WITH MCS GATE..	1
						UOC:7E1,7E2	
	6	PFOZZ	5340014696693	5X050	127373	.COVER,ACCESS.....	1
	7	PAOZZ	5305011622358	45152	1354190	.SCREW,TAPPING 5/16X3/4.....	4
	8	PAOZZ	5315014470479	0PXJ7	63-04	.PIN,COTTER.....	2
	9	PAOZZ	5315014470481	5X050	117122	.PIN,SHOULDER,HEADLE.....	2
	10	XDOZZ		5X050	127892	.TAILGATE ASSEMBLY STANDARD.....	1
						UOC:7A1,7A2	
	11	PAOZZ	5340014465137	5X050	127852	PLATE,MOUNTING.....	2
	12	PAOZZ	5340014464927	5X050	237409	PLATE,MOUNTING.....	2
	13	PAOZZ	5305007252317	80204	B1821BH038C150N	SCREW,CAP,HEXAGON H 3/8-16X1.50....	12
	14	PAOZZ	5340014460947	5X050	129732	PLATE,MOUNTING.....	2
*	15	PAOZZ		64670	407023	GUARD,SPLASH,VEHICU.....	2
	16	XDOZZ		5X050	245352	PLATE,ANCHOR,FLAP.....	2
	17	PAOZZ	5310009359021	96906	MS51943-35	NUT,SELF-LOCKING,HE 3/8-16.....	12
	18	PAOZZ	5315008098786	80205	MS16562-51	PIN,SPRING 3/16X1.25.....	4
	19	PAOZZ	3040014462413	5X050	237410	SHAFT,STRAIGHT.....	2
	20	MOOZZ		5X050	403345X148.75	SIDEBOARD 2.0 X 8.0 X 148.75 IN,	2
						MAKE FROM BULK PN: MILL2037 (81349).	

END OF FIGURE

1
2-15

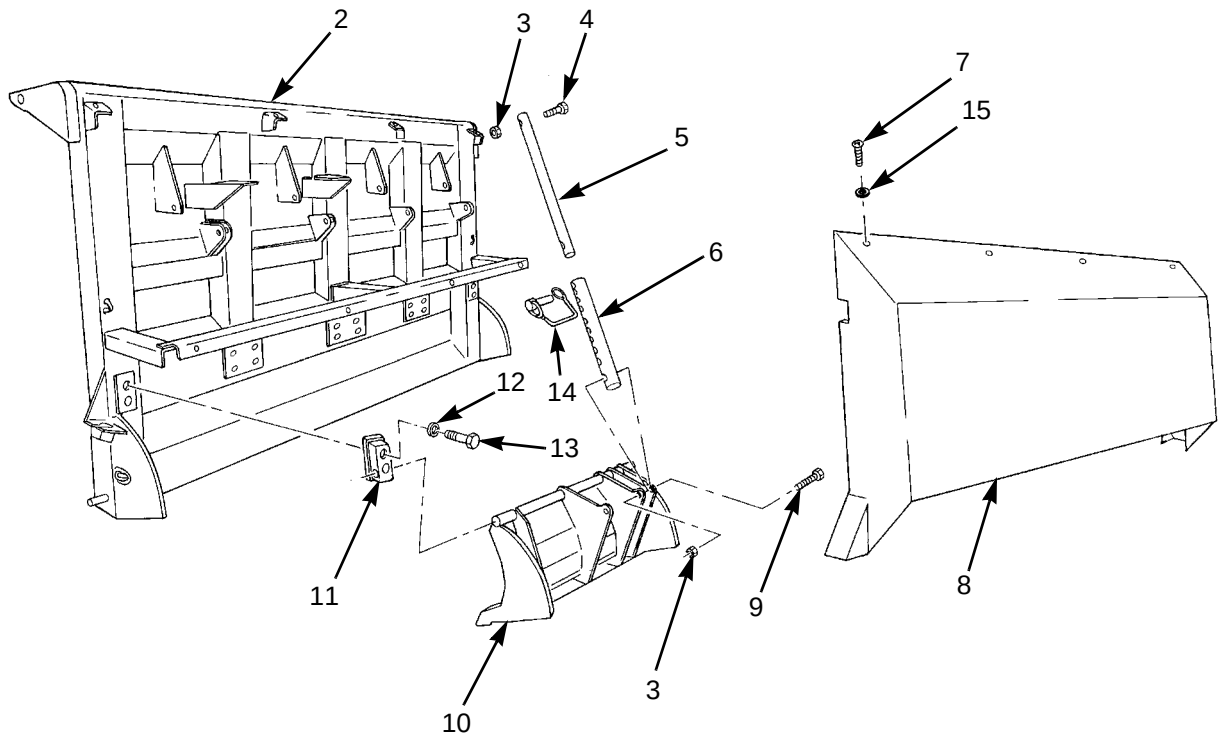


Figure 12. MCS Tailgate Assembly.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 1810 CARGO BODY	
					FIG. 12 MCS TAILGATE ASSEMBLY	
1	PDOOO	2510014738251	5X050	140409	MCS TAILGATE,GREEN MCS TYPE - GREEN UOC:7E1,7E2	1
1	PDOOO	2510014738250	5X050	140410	MCS TAILGATE,TAN MCS TYPE - TAN.... UOC:7E1,7E2	1
2	XDOZZ		5X050	129652	.TAILGATE BARE MCS GATE..... UOC:7E1,7E2	1
3	PAOZZ	5310004883889	96906	MS51943-39	.NUT,SELF-LOCKING,HE 1/2-13..... UOC:7E1,7E2	8
4	PAOZZ	5305000712071	80204	B1821BH050C200N	.SCREW,CAP,HEXAGON H 1/2-13X2.00... UOC:7E1,7E2	4
5	XDOZZ		5X050	239974	.TUBE,METALLIC..... UOC:7E1,7E2	4
6	PAOZZ	4710014975644	5X050	239973	.TUBE,METALLIC..... UOC:7E1,7E2	4
7	PAOZZ	5306002264827	80204	B1821BH031C100N	.BOLT,MACHINE 5/16-18 X 1.00..... UOC:7E1,7E2	10
8	PFOZZ	5340014978124	5X050	129653	.COVER,ACCESS..... UOC:7E1,7E2	1
9	PAOZZ	5305000712076	80204	B1821BH050C325N	.SCREW,CAP,HEXAGON H 1/2-13X3.25... UOC:7E1,7E2	4
10	XDOZZ		5X050	129528	.GATE,MCS..... UOC:7E1,7E2	4
11	PFOZZ	3040014970345	5X050	239963	.BRACKET,EYE,ROTATIN..... UOC:7E1,7E2	8
12	PAOZZ	5310008206653	52793	CW7435-57C	.WASHER,LOCK 5/8..... UOC:7E1,7E2	16
13	PAOZZ	5305007247228	80204	B1821BH063C300N	.SCREW,CAP,HEXAGON H 5/8-11X3.00... UOC:7E1,7E2	16
14	PAOZZ	5315015070537	50620	38-22LP	.PIN,STRAIGHT,HEADED 3/8 X 2-1/2 IN. SQ. SPRING.....	4
15	PFOZZ	5310015187454	5X050	CMG 400892	WASHER,FLAT 5/16..... UOC:7E1,7E2	10

END OF FIGURE

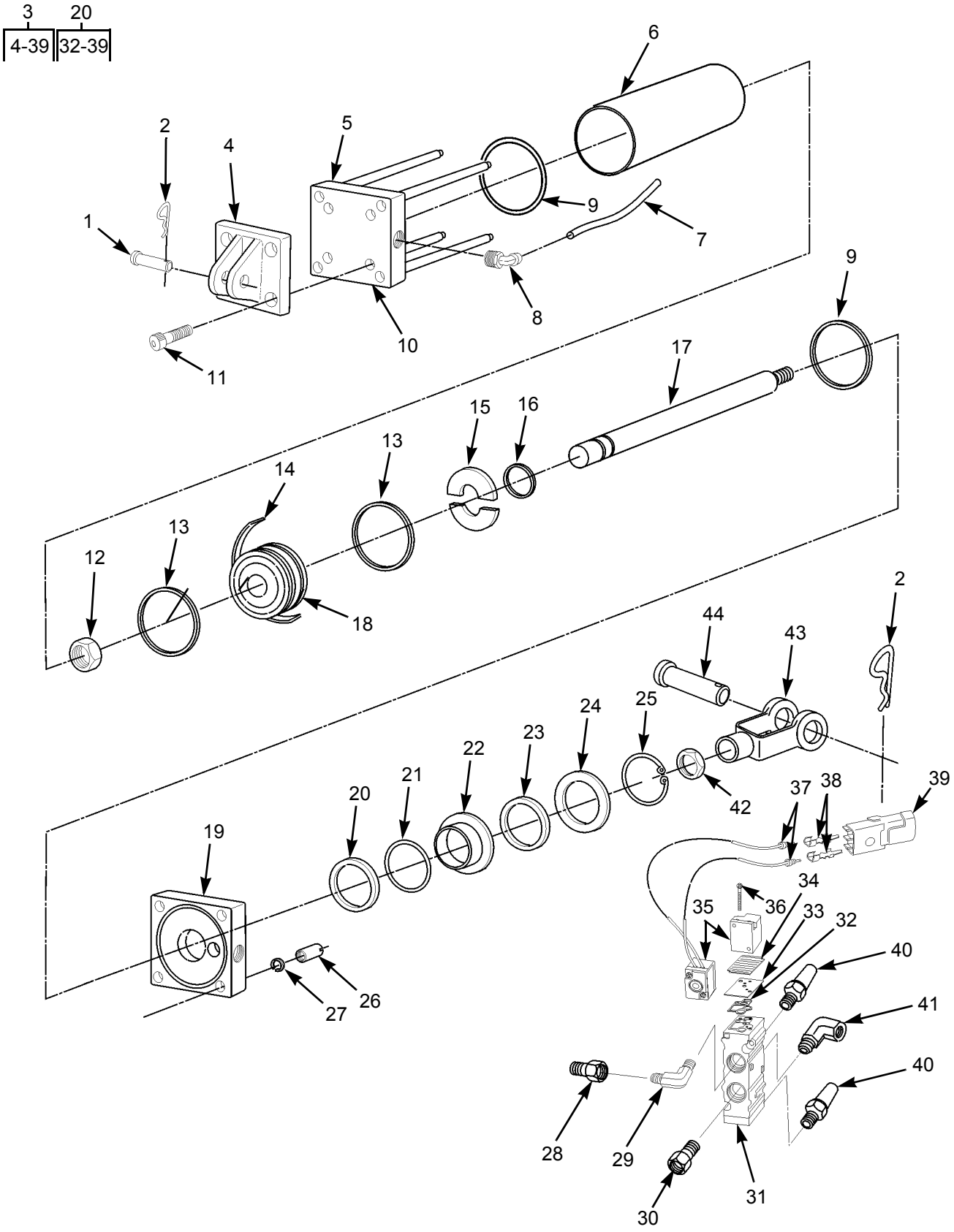


Figure 13. Air Cylinder Assembly.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 1810 CARGO BODY	
					FIG. 13 AIR CYLINDER ASSEMBLY	
1	XDOZZ		5X050	404932	.PIN,STRAIGHT,HEADED .493 OD X 1.97 LG.....	1
1	XDOZZ		5X050	404934	.PIN,STRAIGHT,HEADED .50 OD X 1.50 LG.....	1
1	PAOZZ	5315014469177	79146	019070	PIN,STRAIGHT,HEADED 1/2 X 2 INCH. INCLUDES SPRING PIN.....	1
2	XDOZZ		5X050	404933	.PIN,LOCK .125 X 2.359.....	2
3	PAOOO	3040014472738	5X050	403607	CYLINDER ASSEMBLY,A QTY= 1 7A1,7A2 QTY=5 7E1,7E2, PLAIN CYLINDER ASSY, INCLUDES ITEMS 4 THROUGH 41.....	1
3	PAOZZ	3040015157916	5X050	13141	CYLINDER,ACTUATING, ITEMS 4 THROUGH 41.....	4
4	XAOZZ		5X050	403633	.COVER,REAR.....	1
5	XDOZZ		5X050	403643	.TIE ROD,TENSIONING.....	4
6	XAOZZ		5X050	403627	.TUBE,CYLINDER.....	1
7	MOOZZ		79146	010029X11+/-	.TUBE,NONMETALLIC 3/8 X 11+/-, CUT TO FIT, MAKE FROM BULK PN: PFT-6B-BLK-100.....	1
8	PAOZZ	4730014462108	79146	016964	.ELBOW,PIPE TO TUBE 3/8 TO 1/4"....	1
9	KFOZZ		5X050	403638	.PACKING,PREFORMED PART OF KIT P/N 404939.....	2
10	XAOZZ		5X050	403630	.COVER,END.....	1
11	XDOZZ		5X050	403644	.SCREW.....	4
12	PAOZZ	5310014814919	5X050	403632	.NUT,PLAIN,HEXAGON 1/2-20.....	1
13	KFOZZ		5X050	403639	.SEAL,PLAIN PART OF KIT P/N 404939..	2
14	XDOZZ		5X050	403640	.STRIP,METAL PART OF KIT P/N 404939.	1
15	PAOZA	5220014748432	5X050	403631	.GAGE,RING,PLAIN SET (2 HALVES)....	1
16	PFOZZ	5330014828766	5X050	403636	.PACKING,PREFORMED PART OF KIT P/N 404939.....	1
17	XDOZZ		5X050	403641	.PISTON ROD.....	1
18	XDOZZ		5X050	403626	.PISTON.....	1
19	XAOZZ		5X050	403628	.HEAD,END CYLINDER.....	1
20	KFOZZ		5X050	404929	.PREFORMED,PACKING PART OF KIT P/N 404939.....	1
21	KFOZZ		5X050	403637	.SEAL,PLAIN PART OF KIT P/N 404939..	2
22	KFOZZ		5X050	403629	.BEARING,PISTON ROD PART OF KIT P/N 404939.....	1
23	XDOZZ		5X050	403635	.ARM,WINDSHIELD WIPE PART OF KIT P/N 404939.....	1
24	XDOZZ		5X050	404927	.WASHER,FLAT,SPECIAL 1.130 ID X 1.750 OD X .064 THK.....	1
25	PFOZZ	5325015025209	5X050	404928	.RING,RETAINING 1.942 OD X .062 THK, INTERNAL TYPE.....	1
26	XDOZZ		5X050	404930	.NUT,PLAIN,BARREL 1/2-20UNF.....	4

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
27	PFOZZ	5310015022940	5X050	404931	.WASHER,LOCK 1/2".....	4
28	PAOZZ	4730013456065	93061	VS209P-8-4	.BUSHING,PIPE 1/2-14 X 1/4-18 NPTF, QTY 1 FOR CYLINDER PN: 131341, QTY 2 FOR CYLINDER PN: 403607.....	2
29	PAOZZ	4730001377875	30780	2101-4-4C	.ELBOW,PIPE 0.25 IN.....	1
30	XDOZZ		79146	012037	.ADAPTER,STRAIGHT,PI 3/8X1/4 IN....	2
30	PAOZZ	4730014551068	93061	68PMT-6-4	.ADAPTER,STRAIGHT,PI.....	1
31	KFOOO		5X050	403645	.VALVE,REGULATING,FL PART OF KIT P/N 404940.....	1
32	PAOZA	5330014742447	5X050	403650	..GASKET.....	1
33	PAOZZ	5365014752277	5X050	403649	..SPACER,PLATE.....	1
34	PAOZA	5330014732903	5X050	403648	..GASKET.....	1
35	KFOZZ		5X050	403647	..VALVE,PILOT ASSY PART OF KIT P/N 404940.....	1
36	XDOZZ		5X050	403646	..SCREW,SOCKET HEAD 0.50MM X 25.4MM	2
37	PAOZZ	5975013105011	77060	12015323	.BOOT,DUST AND MOIST.....	2
38	PAOZA	5999014064110	77060	12124582	.CONTACT,ELECTRICAL.....	2
39	PAOZZ	5935012144163	22785	12010973	.CONNECTOR BODY,PLUG.....	1
40	XDOZZ		79146	030084	.FILTER,ELEMENT,AIR.....	2
41	XDOZZ		93061	404938	.ELBOW,PIPE TO TUBE 1/2" NPT.....	1
42	XDOZZ		5X050	403642	NUT, JAM 5/8-18.....	1
43	XDOZZ		5X050	403634	CLEVIS,ROD END.....	1
44	PAOZZ	5315014469174	79146	019067.	PIN,STRAIGHT,HEADED 1/2 X 1-11/32 IN. INCLUDES SPRING PIN 1/8 X 2 1/4 IN.....	1

END OF FIGURE

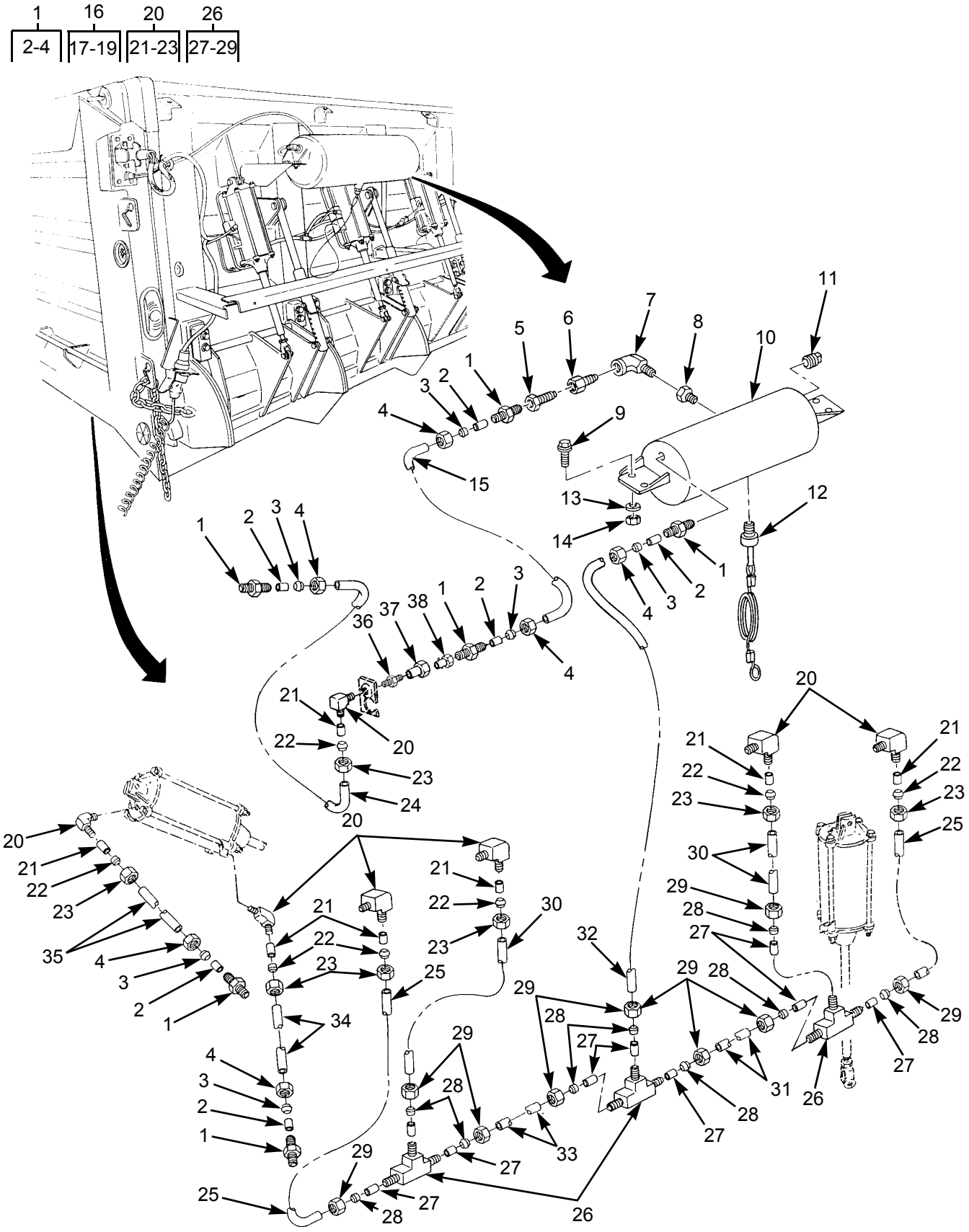


Figure 14. Air Tank, Lines and Fittings.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 1810 CARGO BODY	
					FIG. 14 AIR TANK, LINES AND FITTINGS	
1	PAOZZ	4730010969128	93061	68NTA-6-6	ADAPTER,STRAIGHT,PI QTY=2 7A1,7A2 QTY=4 7E1,7E2.....	4
2	PAOZZ	4730010564990	93061	63NTA-6	.INSERT,TUBE FITTING.....	1
3	PAOZZ	4730010485260	93061	60NTA6	.SLEEVE,COMPRESSION,.....	1
4	PAOZZ	4730010487873	93061	61NTA-6	.NUT,TUBE COUPLING.....	1
5	PAOZZ	4730000444035	79470	C3109X8X6	BUSHING,PIPE..... UOC:7E1,7E2	1
6	XDOZZ		79146	320001	VALVE,CHECK..... UOC:7E1,7E2	1
7	PAOZZ	4730002892357	30780	2102-8-8	ELBOW,PIPE..... UOC:7E1,7E2	1
8	PFOZZ	4730002783888	30780	0102-12-8	REDUCER,PIPE..... UOC:7E1,7E2	1
9	PAOZZ	5305000680510	80204	B1821BH038C100N	SCREW,CAP,HEXAGON H 3/8-16X1.00.... UOC:7E1,7E2	4
10	XDOZZ		79146	035055	TANK,PRESSURE..... UOC:7E1,7E2	1
11	PAOZZ	4730000575555	30780	01HP-6	PLUG,PIPE 3/8..... UOC:7E1,7E2	1
12	PAOZZ	4820014184232	79146	032135	COCK,POPPET DRAIN..... UOC:7E1,7E2	1
13	PAOZZ	5310000806004	96906	MS27183-14	WASHER,FLAT 3/8..... UOC:7E1,7E2	4
14	PAOZZ	5310009359021	96906	MS51943-35	NUT,SELF-LOCKING,HE 3/8-16..... UOC:7E1,7E2	4
15	MOOZZ		5X050	245538X66	TUBE,NYLON 66 IN. MAKE FROM BULK PN: NT10006 (79470)..... UOC:7E1,7E2	1
16	PAOZZ	4730010622570	93061	68NTA-6-4	ADAPTER,STRAIGHT,PI..... UOC:7E1,7E2	1
17	PAOZZ	4730010564990	93061	63NTA-6	.INSERT,TUBE FITTING..... UOC:7E1,7E2	1
18	PAOZZ	4730010485260	93061	60NTA-6	.SLEEVE,COMPRESSION,..... UOC:7E1,7E2	1
19	PAOZZ	4730010487873	93061	61NTA-6	.NUT,TUBE COUPLING..... UOC:7E1,7E2	1
20	PAOZZ	4730012443552	93061	VS269NTA-6-4	ELBOW,PIPE TO TUBE QTY=2 7A1,7A2, QTY=7 7E1,7E2..... UOC:7A1,7A2,7E1,7E2	7
21	PAOZZ	4730010564990	93061	63NTA-6	.INSERT,TUBE FITTING.....	1
22	PAOZZ	4730010485260	93061	60NTA-6	.SLEEVE,COMPRESSION,.....	1
23	PAOZZ	4730010487873	93061	61NTA-6	.NUT,TUBE COUPLING.....	1
24	MOOZZ		5X050	245544X144	TUBE,NYLON 144 IN. MAKE FROM BULK PN: NT10006 (79470)..... UOC:7E1,7E2	1

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
25	MOOZZ		5X050	245542X31	TUBE,NYLON 31 IN. MAKE FROM BULK PN: NT10006 (79470)..... UOC:7E1,7E2	2
26	PAOZZ	4730011343571	30780	264NTA-6	TEE,TUBE..... UOC:7E1,7E2	3
27	PAOZZ	4730010564990	93061	63NTA-6	.INSERT,TUBE FITTING..... UOC:7A1,7E1,7E2	1
28	PAOZZ	4730010485260	93061	60NTA-6	.SLEEVE,COMPRESSION,..... UOC:7A1,7E1,7E2	1
29	PAOZZ	4730010487873	93061	61NTA-6	.NUT,TUBE COUPLING..... UOC:7A1,7E1,7E2	1
30	MOOZZ		5X050	245543X9	TUBE,NYLON 9 IN. MAKE FROM BULK PN: NT10006 (78470)..... UOC:7E1,7E2	2
31	MOOZZ		5X050	245540X17	TUBE,NYLON 17 IN. MAKE FROM BULK PN: NT10006 (79470)..... UOC:7E1,7E2	1
32	MOOZZ		5X050	245539X21	TUBE,NYLON 21 IN. MAKE FROM BULK PN: NT10006 (79470)..... UOC:7E1,7E2	1
33	MOOZZ		5X050	245541X8	TUBE,NYLON 8 IN. MAKE FROM BULK PN: NT10006 (79470)..... UOC:7E1,7E2	1
34	MOOZZ		5X050	245786X36	TUBE,NYLON 36 IN. MAKE FROM BULK PN: NT10006 (79470).....	1
35	MOOZZ		5X050	245787X38	TUBE,NYLON 38 IN. MAKE FROM BULK PN: NT10006 (79470).....	1
36	PAOZZ	4730002778289	93061	216P-4	NIPPLE,PIPE 1/4 X 1.375..... UOC:7A1,7E1	1
37	PAOZZ	4730014739699	5X050	403620	QUICK COUPLING,BODY..... UOC:7A1,7E1,7E2	1
38	PAOZZ	4730014739667	5X050	403621	QUICK COUPLING,AIR..... UOC:7A1,7E1,7E2	1
39	PFOZA	4730015189184	5X050	401332	ADAPTER,STRAIGHT,PI MALE 3/8 X 1/4. UOC:7E1,7E2	1
40	PFOZZ	5365015182872	5X050	403381	BUSHING BLANK 1/2MX1/4.....	2

END OF FIGURE

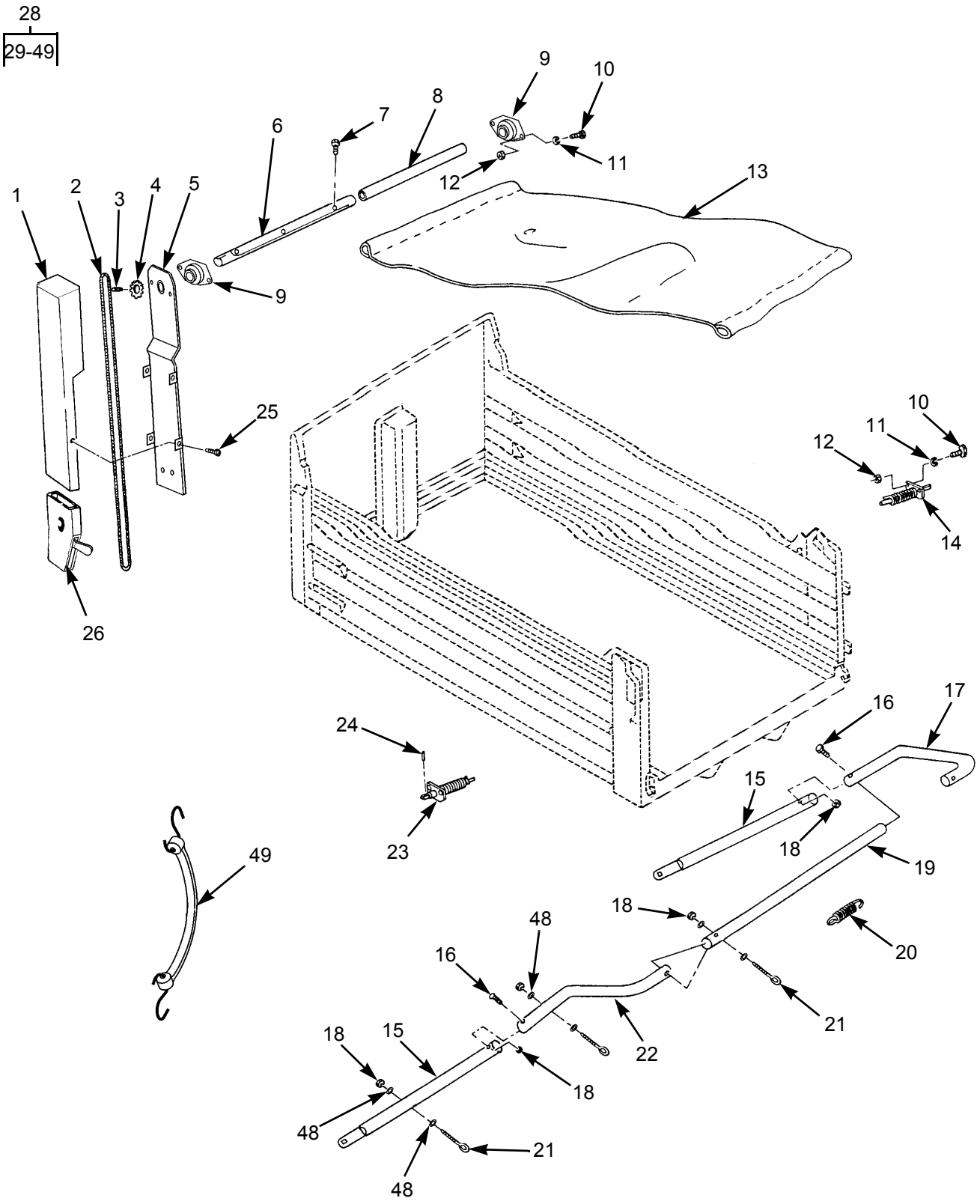


Figure 15. Cargo Cover and Component Parts (Sheet 1 of 2).

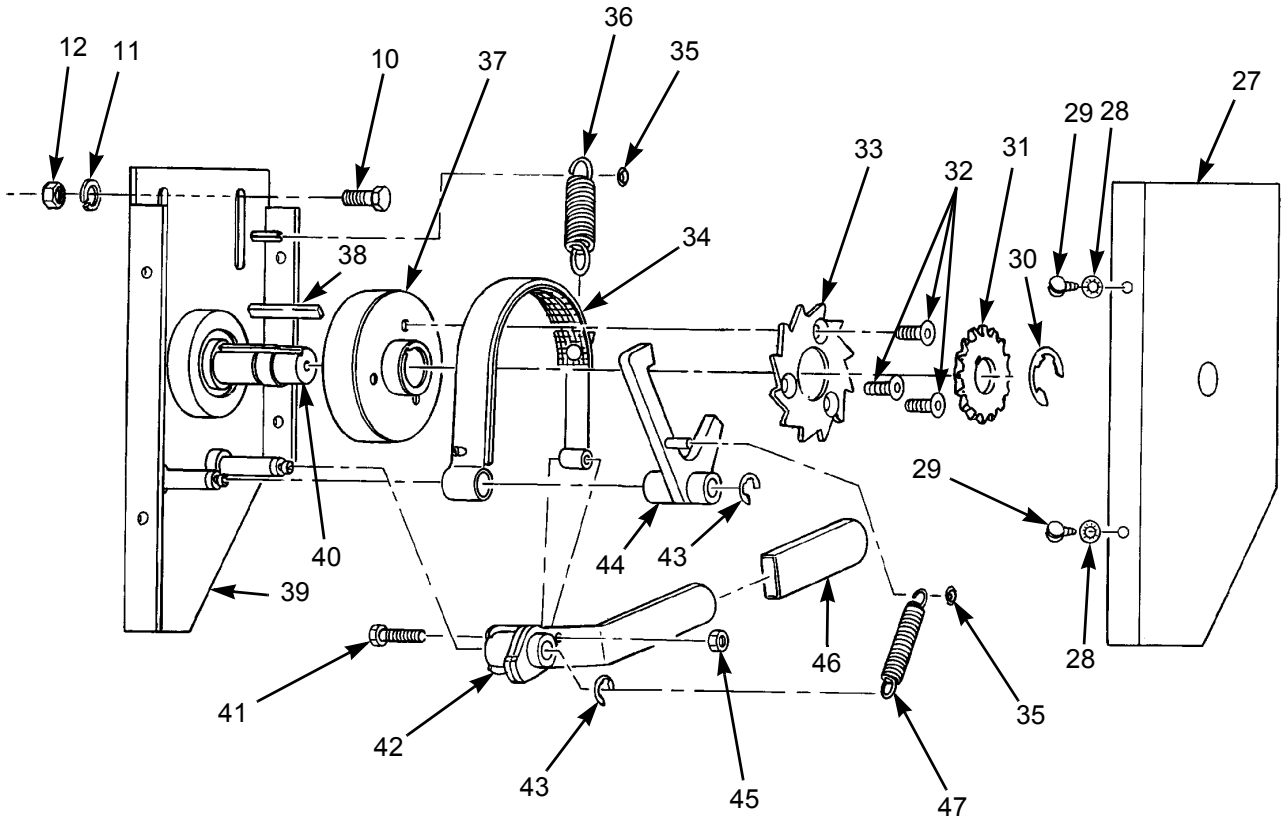


Figure 15. Cargo Cover and Component Parts (Sheet 2 of 2).

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 22 BODY, CHASSIS, AND HULL ACCESSORY ITEMS	
					GROUP 2201 CANVAS, RUBBER OR PLASTIC ITEMS	
					FIG. 15 CARGO COVER AND COMPONENT PARTS	
1	PFOZZ	5340014746455	5B752	0311-961402	COVER,ACCESS.....	1
2	PAOZZ	3020014466412	5B752	0720-603557	CHAIN,ROLLER #40 X 168 IN.....	1
3	PAOZZ	5315014466724	5B752	0840-618512	KEY,WOODRUFF 1/4X1 1/2 IN.....	1
4	PAOZZ	3020014466409	5B752	0750-619594	SPROCKET WHEEL.....	1
5	PFOZZ	5340014746462	5B752	0311-961401	PLATE,MOUNTING LEFT SIDE.....	1
6	PFOZZ	5342014459481	5B752	0311-961273	CONTROL ROD LEFT SIDE.....	1
7	PAOZZ	5305009881725	96906	MS35206-281	SCREW,MACHINE 1/4-20X0.75.....	6
8	PFOZZ	5342014495475	5B752	0311-961267	CONTROL ROD RIGHT SIDE.....	1
9	PFOZZ	3130014749064	5B752	0710-602155	HOUSING,BEARING UNI.....	2
10	PAOZZ	5305005434372	80204	B1821BH038C075N	SCREW,CAP,HEXAGON H 3/8-16 X 3/4"..	12
11	PAOZZ	5310006379541	80205	MS35338-46	WASHER,LOCK 3/8 IN.....	6
12	PAOZZ	5310007320558	96906	MS51967-8	NUT,PLAIN,HEXAGON 3/8-16.....	6
13	PAOZZ	2540014495775	5B752	ECT 13 CRY	TARPAULIN.....	1
14	PAOZZ	5360014463122	5B752	0311-960238	SPRING,SPIRAL,TORSI RIGHT SIDE.....	1
15	PAOZZ	3040014463790	5B752	0311-961280	SHAFT,SHOULDERED.....	2
16	PAOZZ	5305000712513	80204	B1821BH025C250N	SCREW,CAP,HEXAGON H 1/4-20X2.50....	2
17	PAOZZ	5342014752802	5B752	0311-861590	CONTROL ROD RIGHT SIDE.....	1
18	PAOZZ	5310013336436	64678	23-10340-125	NUT,SELF-LOCKING,AS 1/4-20.....	8
19	PAOZZ	3040014463793	5B752	0311-861591	SHAFT,STRAIGHT REAR.....	1
20	PAOZZ	5360014467903	5B752	0715-619601	SPRING,HELICAL,EXTE 4 IN.....	2
21	PAOZZ	5306009577531	10266	213 1-4 20X2 1-2	BOLT,EYE 1/4-20X2.50.....	6
22	PAOZZ	5342014460902	5B752	0311-861589	ARM,HAND CRANK LEFT SIDE.....	1
23	PAOZZ	5360014463194	5B752	0311-960237	SPRING,SPIRAL,TORSI.....	1
24	PAOZZ	5315014475712	5B752	0835-691616	KEY,MACHINE 1/4 X 1 5/8 IN.....	2
25	PAOZZ	5305014468972	5B752	0825-670460	SCREW,TAPPING #14 X 1.00 IN.....	4
26	PAOOZ	5340014927615	5B752	0311-961356	CRANK,HAND.....	1
27	PFOZZ	5340014746449	5B752	0311-861596	.COVER,ACCESS.....	1
28	PAOZZ	5310005501130	80205	MS35333-40	.WASHER,LOCK 1/4 IN.....	4
29	PAOZZ	5305009881725	96906	MS35206-281	.SCREW,MACHINE 1/4-20X0.75.....	4
30	PAOZZ	5325005307968	96906	MS16624-1100	.RING,RETAINING 1 IN. EXTERNAL.....	1
31	PAOZZ	3020014466405	5B752	0750-619592	.SPROCKET WHEEL.....	1
32	PAOZZ	5305009847353	96906	MS35191-306	.SCREW,MACHINE 5/16-24X0.75.....	3
33	PAOZA	3020014732738	5B752	0311-862406	.RATCHET WHEEL.....	1
34	PAOZZ	2530014463340	5B752	0311-960739	.BRAKE BAND AND LINI.....	1
35	XDOZZ		11862	0815-660451	.NUT NUT 1/4 IN NYLOCK.....	1
35	PAOZZ	5310000881251	81349	M45913/1-4CG5C	.NUT,SELF-LOCKING,HE 1/4-20.....	2
36	PAOZZ	5360014464054	5B752	0715-619800	.SPRING,HELICAL,COMP.....	1
37	PAOZZ	3040014464689	5B752	0311-860730	.BRAKE DRUM.....	1
38	PFOZA	5315014488804	5B752	0840-618513	.KEY,WOODRUFF 6MM X 2.25 IN.....	1

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
39	XAOZZ		5B752	0311-962125	.PLATE,BASE CRANK.....	1
40	PFOZZ	3040014463782	5B752	0311-860732	.SHAFT,SHOULDERED.....	1
41	PAOZZ	5305010750957	96906	MS51849-100	.SCREW,MACHINE 1/4-20X1.50.....	1
42	PFOZZ	5340014746446	5B752	0311-962132	.HANDLE,MANUAL CONTR.....	1
43	PAOZZ	5325008037301	96906	MS16624-1050	.RING,RETAINING 1/2 IN. EXTERNAL...	2
44	PFOZZ	3040014732741	5B752	0311-962128	.PAWL.....	1
45	PAOZZ	5310000614650	45152	114356A	.NUT,SELF-LOCKING,HE 1/4-20.....	1
46	PAOZZ	5340014457778	5B752	0765-618830	.GRIP,HANDLE.....	1
47	PAOZZ	5360014463190	5B752	0715-619602	.SPRING,HELICAL,COMP.....	1
48	PAOZZ	5310008094058	96906	MS27183-10	WASHER,FLAT 1/4 INCH.....	8
49	PAOZZ	5340014749576	5B752	1545-619860	STRAP,ELASTIC 15 INCH.....	2

END OF FIGURE

1
2-4

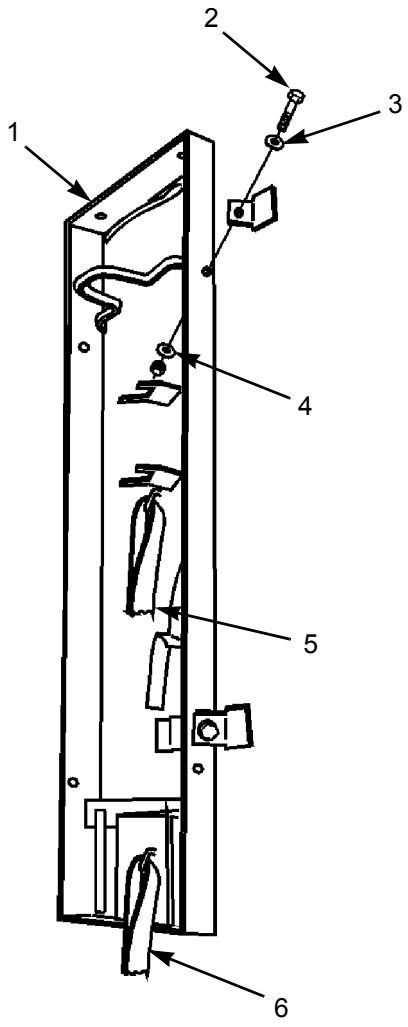


Figure 16. Shovel Mounting.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 2201 CANVAS, RUBBER OR PLASTIC ITEMS	
					FIG. 16 SHOVEL MOUNTING	
1	PAOOZ	2540011757257	19207	12302814	MOUNTING KIT,TOOL S.....	1
2	PAOZZ	5305002692803	80205	MS90726-60	.SCREW,CAP,HEXAGON H 3/8-24X1, INCLUDED IN MOUNTING KIT.....	4
3	PAOZZ	5310008094061	96906	MS27183-15	.WASHER,FLAT 3/8, INCLUDED IN MOUNTING KIT.....	8
4	PAOZZ	5310008140672	96906	M45912/3-6FG8C	.NUT,SELF-LOCKING,HE 3/8-24, INCLUDED IN MOUNTING KIT.....	4
5	PAOZZ	5340007533741	19200	7550233-1	STRAP,WEBBING 14 INCH.....	1
6	PAOZZ	5340010328448	19200	7550233-2	STRAP,WEBBING 20 INCH.....	1

END OF FIGURE

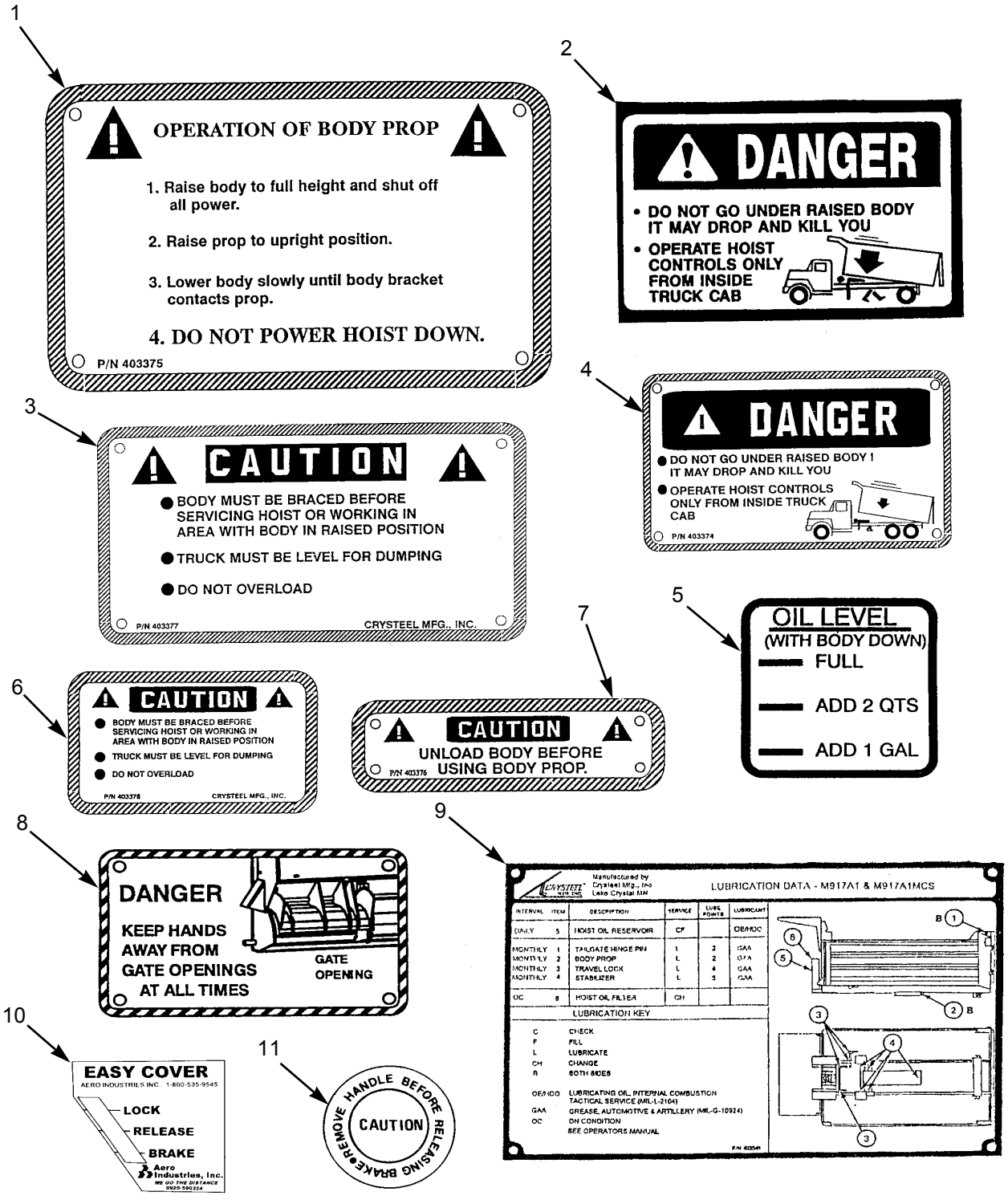

1
OPERATION OF BODY PROP
1. Raise body to full height and shut off all power.
2. Raise prop to upright position.
3. Lower body slowly until body bracket contacts prop.
4. DO NOT POWER HOIST DOWN.
P/N 403375
2
DANGER
• DO NOT GO UNDER RAISED BODY IT MAY DROP AND KILL YOU
• OPERATE HOIST CONTROLS ONLY FROM INSIDE TRUCK CAB
3
CAUTION
● BODY MUST BE BRACED BEFORE SERVICING HOIST OR WORKING IN AREA WITH BODY IN RAISED POSITION
● TRUCK MUST BE LEVEL FOR DUMPING
● DO NOT OVERLOAD
P/N 403377
CRYSTEEL MFG., INC.
4
DANGER
● DO NOT GO UNDER RAISED BODY ! IT MAY DROP AND KILL YOU
● OPERATE HOIST CONTROLS ONLY FROM INSIDE TRUCK CAB
P/N 403374
5
OIL LEVEL
(WITH BODY DOWN)
FULL
ADD 2 QTS
ADD 1 GAL
6
CAUTION
● BODY MUST BE BRACED BEFORE SERVICING HOIST OR WORKING IN AREA WITH BODY IN RAISED POSITION
● TRUCK MUST BE LEVEL FOR DUMPING
● DO NOT OVERLOAD
P/N 403378
CRYSTEEL MFG., INC.
7
CAUTION
UNLOAD BODY BEFORE USING BODY PROP.
P/N 403376
8
DANGER
KEEP HANDS AWAY FROM GATE OPENINGS AT ALL TIMES
GATE OPENING
9
Manufactured by Crysteel Mfg., Inc Lake Crystal MN
LUBRICATION DATA - M917A1 & M917A1MCS
INTERVAL ITEM DESCRIPTION SERVICE LUBE POINTS LUBRICANT
DAILY 5 HOIST OIL RESERVOIR CF OE/HDO
MONTHLY 1 TAILGATE HINGE PIN L 2 GAA
MONTHLY 2 BODY PROP L 2 GAA
MONTHLY 3 TRAVEL LOCK L 4 GAA
MONTHLY 4 STABILIZER L 5 GAA
OC 8 HOIST OIL FILTER CH
LUBRICATION KEY
C CHECK
F FILL
L LUBRICATE
CH CHANGE
B BOTH SIDES
OE/HDO LUBRICATING OIL, INTERNAL COMBUSTION TACTICAL SERVICE (MIL-L-2104)
GAA GREASE, AUTOMOTIVE & ARTILLERY (MIL-G-10924)
OC ON CONDITION
SEE OPERATORS MANUAL
10
EASY COVER
AERO INDUSTRIES INC. 1-800-535-9545
LOCK
RELEASE
BRAKE
Aero Industries, Inc.
11
REMOVE HANDLE BEFORE RELEASING BRAKE
CAUTION

Figure 17. Decals.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 2210 DATA PLATES AND INSTRUCTION HOLDERS	
					FIG. 17 DECALS	
1	PCOZZ	7690014458976	5X050	403375	MARKER,IDENTIFICATI CAUTION, BODY PROP.....	2
2	PCOZZ	7690014459903	5X050	403374	MARKER,IDENTIFICATI DANGER.....	2
3	PCOZZ	7690014459933	5X050	403377	MARKER,IDENTIFICATI CAUTION.....	2
4	PCOZZ	7690014459897	5X050	401577	MARKER,IDENTIFICATI DANGER.....	1
5	PCOZZ	7690014458961	5X050	403492	MARKER,IDENTIFICATI OIL LEVEL.....	1
6	PCOZZ	7690014458967	5X050	403378	MARKER,IDENTIFICATI CAUTION.....	1
7	PCOZZ	7690014458973	5X050	403376	MARKER,IDENTIFICATI CAUTION, BODY PROP.....	2
8	PAOZZ	9905014988178	5X050	403514	PLATE,INSTRUCTION DANGER GATE OPENING MCS.....	4
9	PFOZZ	9905014499632	5X050	403541	PLATE,IDENTIFICATIO.....	1
10	PCOZZ	7690014491470	5B752	0920-590324	DECAL.....	1
11	PCOZZ	7690014491447	5B752	0920-590325	DECAL.....	1

END OF FIGURE

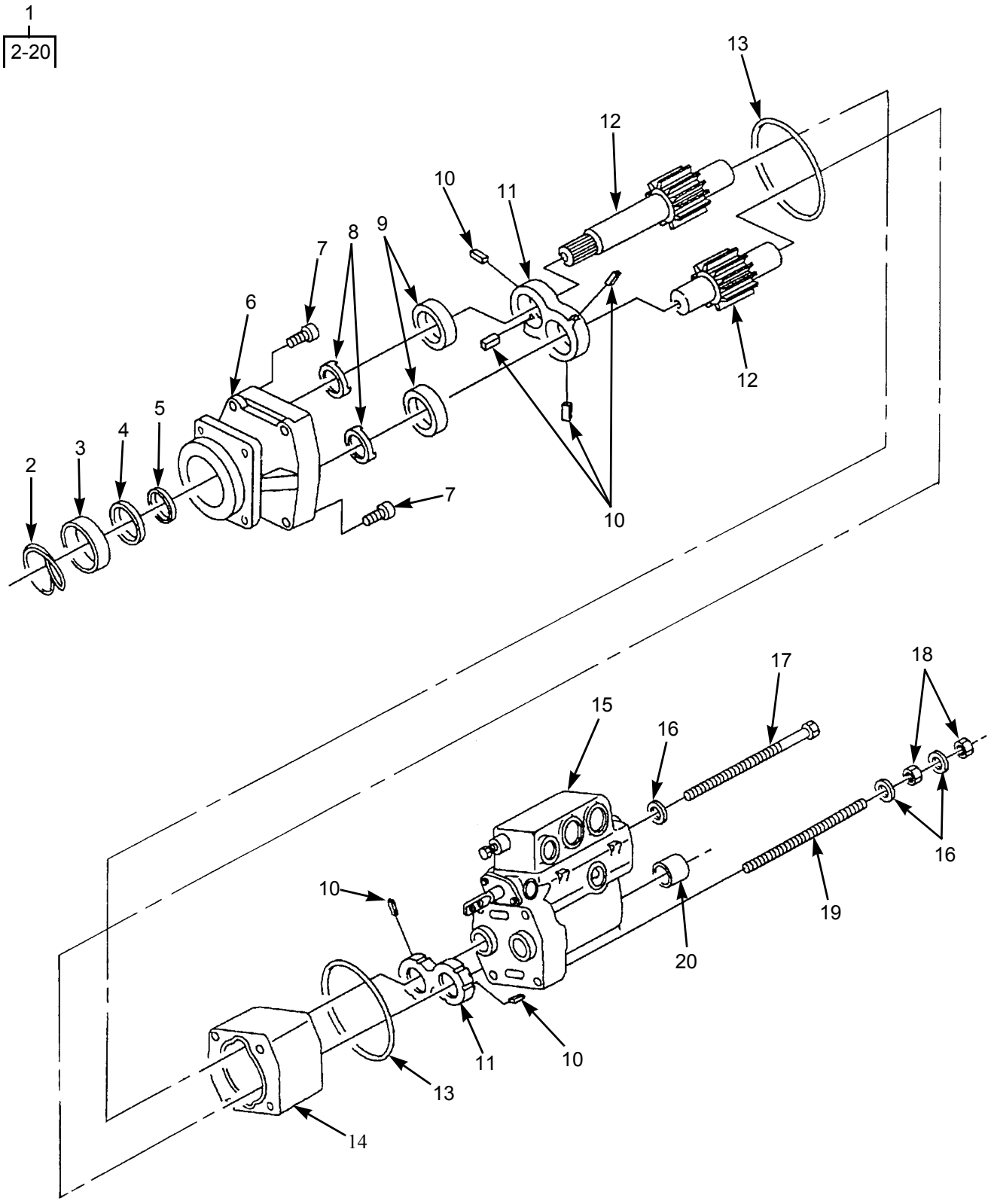


Figure 18. Hydraulic Pump Assembly.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 24 HYDRAULIC AND FLUID SYSTEMS	
					GROUP 2401 PUMP AND MOTOR	
					FIG. 18 HYDRAULIC PUMP ASSEMBLY	
1	PAFFF	4320014510045	13829	308 9310 156	PUMP,HYDRAULIC.....	1
2	PAFZZ	5325007688563	80756	RRT206	.RING,RETAINING.....	1
3	PAFZZ	5365013614609	13829	391 3383 069	.SPACER,SLEEVE.....	1
4	PAFZZ	5365012360717	13829	391 3381 040	.SPACER,RING.....	1
5	PAFZZ	5330012360469	82338	391 2883 119	.SEAL,PLAIN ENCASED.....	1
6	XAOZZ		13829	308 5030 201	.COVER,SHAFT END HOU.....	1
7	PAFZZ	4820004354391	13829	M1391K	.VALVE,CHECK.....	2
8	PAFZZ	5330012122222	38335	25316	.GASKET.....	2
9	PAFZZ	3110012602561	13829	391-0381-906	.BEARING,ROLLER,NEED.....	2
10	PAFZZ	5330008091052	13829	391 2882 051	.SEAL,NONMETALLIC ST.....	12
11	PAFZZ	3120013284294	13829	391-2185-913	.BEARING,WASHER,THRU.....	2
12	PAFZZ	3040014462408	13829	312 2920 130	.GEARSHAFT SET,SPUR, 2.0 INCH.....	1
13	PAFZZ	5330013408159	13829	391 2884 019	.SEAL,PLAIN.....	2
14	XAOZZ		13829	308 8020 901	.HOUSING,GEAR.....	1
15	XAFZZ		13829	308 9414 024	.COVER,PORT END HOUS.....	1
16	PAFZZ	5310013408353	13829	391 3782 146	.WASHER,FLAT.....	5
17	PAFZZ	5305014471330	13829	391 1401 382	.SCREW,CAP,SOCKET HE 2 IN.....	3
18	PAFZZ	5310013408088	13829	391 1451 115	.NUT,PLAIN,HEXAGON.....	2
19	PAFZZ	5307014467531	13829	391 1425 437	.STUD,PLAIN.....	1
20	PAFZZ	5365014460280	13829	391 3283 052	.SPACER,SLEEVE.....	1

END OF FIGURE

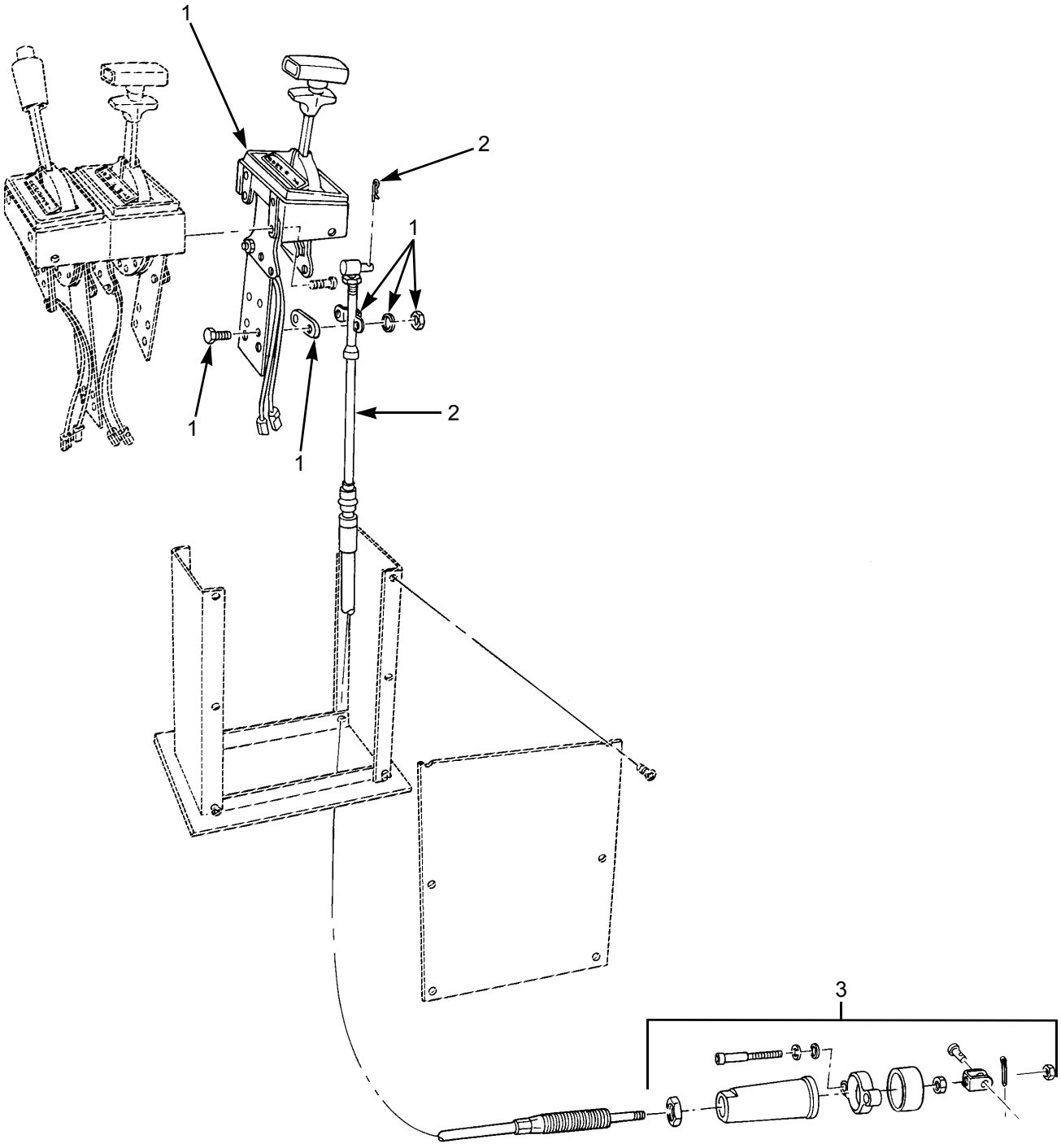


Figure 19. Dump Control and Cable.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 2403 HYDRAULIC CONTROLS AND/OR MANUAL CONTROLS	
					FIG. 19 DUMP CONTROL AND CABLE	
1	PAOZZ	2590014427238	60602	55940-4	CONTROL ASSEMBLY,PU.....	1
2	PFOZZ	2590014457883	60602	45884-48	CONTROL ASSEMBLY,PU..... UOC:7A1,7E1	1
2	PFOZZ	2590015287521	64678	FLD/45884 0072	CONTROL ASSEMBLY,PU..... UOC:7A2,7E2	1
3	PAOZZ	4820014468874	04710	01-5000-35	PARTS KIT,VALVE.....	1

END OF FIGURE

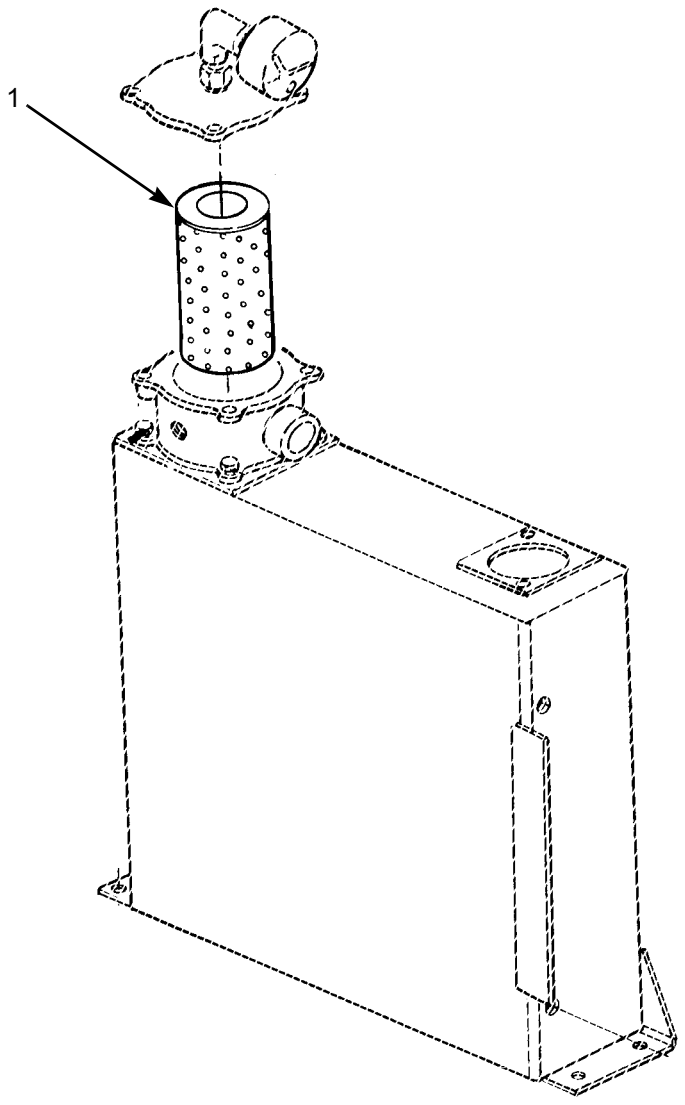


Figure 20. Filter Element, Hydraulic.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 2406 STRAINERS, FILTERS, LINES AND FITTINGS, ETC.	
					FIG. 20 FILTER ELEMENT, HYDRAULIC	
1	PAOZZ	4330014463337	5X050	403366	FILTER ELEMENT,FLUI 10 MICRON.....	1

END OF FIGURE

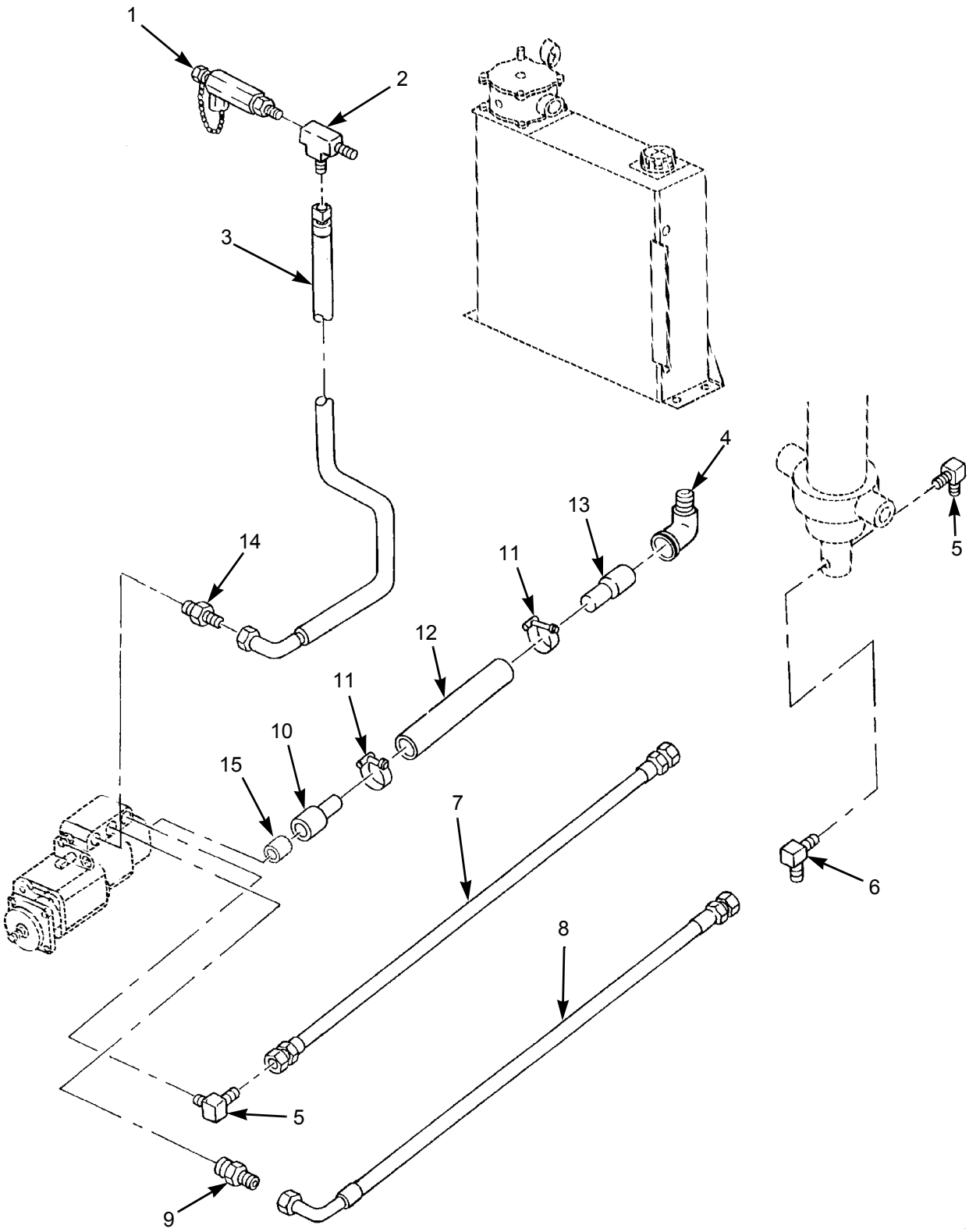


Figure 21. Hydraulic Hoses and Fittings.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 2406 STRAINERS, FILTERS, LINES AND FITTINGS, ETC.	
					FIG. 21 HYDRAULIC HOSES AND FITTINGS	
1	PAFZZ	4820012988416	81349	M81940/2-1	VALVE,BLEEDER,HYDRA.....	1
2	PAOZZ	4730014462110	5X050	239932	ELBOW,PIPE TO TUBE.....	1
3	PAOZZ	4720014461508	5X050	403459	HOSE ASSEMBLY,NONME..... UOC:7A1,7E1	1
3	PFOZA	4720015189183	5X050	406342	HOSE ASSEMBLY,NONME 1 5/16 JIC X 105" SF/SF 90L..... UOC:7A2,7E2	1
4	PAOZZ	4730010285540	30780	1-1/2 CDS	ELBOW,PIPE..... UOC:7A1,7E1	1
4	PFOZZ	4730015191782	5X050	406355	ELBOW,PIPE 1 1/2 NPT 45O..... UOC:7E2	1
4	PAOZZ	4730015191777	5X050	406356	NIPPLE,PIPE 1 1/2 X 6..... UOC:7A2	1
5	PAOZZ	4730010117736	96906	MS51527-A12	ELBOW,TUBE TO BOSS.....	2
6	PAOZZ	4730008225609	00624	MS51527A8	ELBOW,TUBE TO BOSS.....	1
7	PAOZZ	4720014461481	5X050	403458	HOSE ASSEMBLY,NONME..... UOC:7A1,7E1	1
7	PFOZZ	4720015190924	5X050	406340	HOSE ASSEMBLY,NONME 1 1/16 JIC X 57" SF/SF..... UOC:7A2,7E2	1
8	PAOZZ	4720014461541	5X050	403457	HOSE ASSEMBLY,NONME..... UOC:7A1,7E1	1
8	PFOZZ	4730015189540	5X050	406341	HOSE ASSEMBLY,NONME 3/4 JIC X 57" SF/SF 90L..... UOC:7A2,7E2	1
9	PAOZZ	4730010464034	30780	0503-12-8	ADAPTER,STRAIGHT,TU.....	1
10	PAOZZ	4730014462112	60827	FT-1215-ZP	ADAPTER,STRAIGHT,PI.....	1
11	PAOZZ	4730014462107	9X737	HC150	CLAMP,HOSE 1.91-2.22 INCH.....	2
12	PAOZZ	4720014461729	5X050	403456	HOSE,NONMETALLIC 1.50 ID X 24.00 INCH.....	1
13	PAOZZ	4730014463255	60827	FT-150-ZP	ADAPTER,STRAIGHT,PI.....	1
14	PAOZZ	4730001731881	96906	MS51525A12-16	ADAPTER,STRAIGHT,TU.....	1
15	PFOZZ		5X050	401540	SLEEVE INLET VALVE.....	1

END OF FIGURE

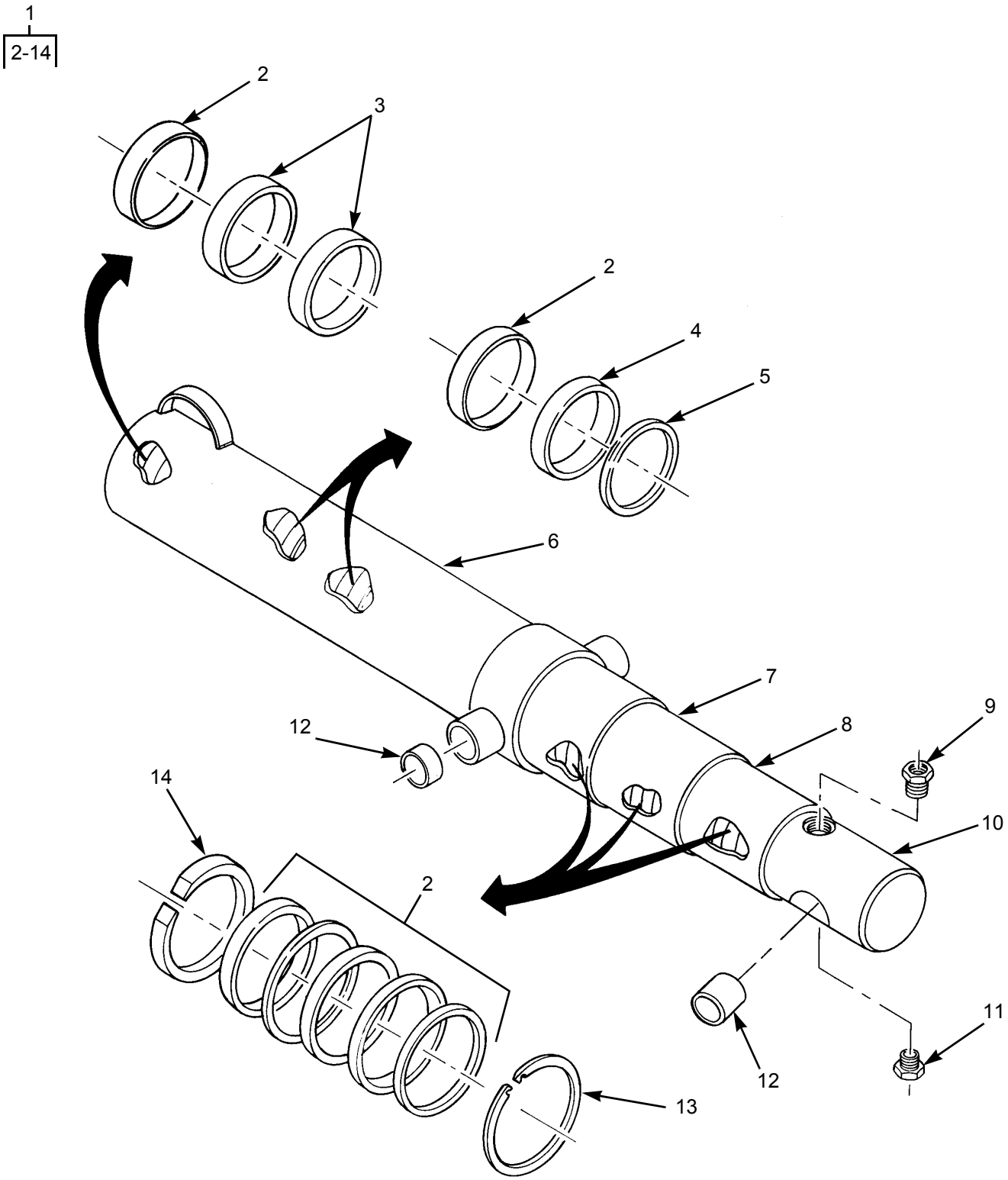


Figure 22. Cylinder Assembly, Hoist.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 2407 HYDRAULIC CYLINDERS	
					FIG. 22 CYLINDER ASSEMBLY, HOIST	
1	PFFFF	3040014463620	5X050	403236	CYLINDER ASSEMBLY,A.....	1
2	PAFZA	5330014471113	02249	034-55008-53118	.PARTS KIT,SEAL REPL INCLUDES ALL WEAR RINGS, GUIDE RINGS, RET. RINGS, WIPERS, RET. WIPERS, U-CUP SEALS...	1
3	PAFZZ	3040014464665	02249	B12071-0500	.RING,PISTON 5 INCH.....	2
4	PAFZZ	3040014466277	02249	B12071-0400	.RING,PISTON 4 INCH.....	1
4	PAFZZ	3040014466274	02249	B12071-0300	.RING,PISTON 3 INCH.....	1
5	PAFZZ	3040014466280	02249	0263914	.RING,PISTON 3.5 INCH.....	1
5	XDFZZ		02249	0263984	.RING,PISTON 4.5 INCH.....	2
6	XDFZZ		02249	002-55074-04844	.BARREL ASSEMBLY.....	1
7	XDFZZ		02249	062-50049-04752	.SLEEVE ASSY 5 INCH.....	1
8	XDFZZ		02249	062-40044-04689	.SLEEVE ASSY 4 INCH.....	1
9	PAFZZ	5365013403898	01276	900598-12S	.PLUG,MACHINE THREAD 1 1/16-12, WITH O-RING.....	1
10	XDFZZ		02249	063-30135-04992	.PLUNGER ASSY 3 INCH.....	1
11	PAFZZ	5365012174133	01276	900598-8S	.PLUG,MACHINE THREAD 3/4-16, WITH O-RING.....	1
12	PAFZZ	5365014464322	02249	035-17002-00225	.SPACER,SLEEVE.....	3
13	PAFZZ	5325014464051	02249	083-10005-00562	.RING,RETAINING 5 INCH.....	1
13	PAFZZ	5325014464052	02249	083-50003-00462	.RING,RETAINING 4 INCH.....	1
13	PAFZZ	5325014464053	02249	083-50003-00362	.RING,RETAINING 3 INCH.....	1
14	PAFZZ	5325014469182	02249	B9971-00550	.RING,RETAINING 5 INCH.....	1
14	PAFZZ	5325014469204	02249	083-50002-00450	.RING,RETAINING 4 INCH.....	1
14	PAFZZ	5325014469210	02249	083-50002-00350	.RING,RETAINING 3 INCH.....	1

END OF FIGURE

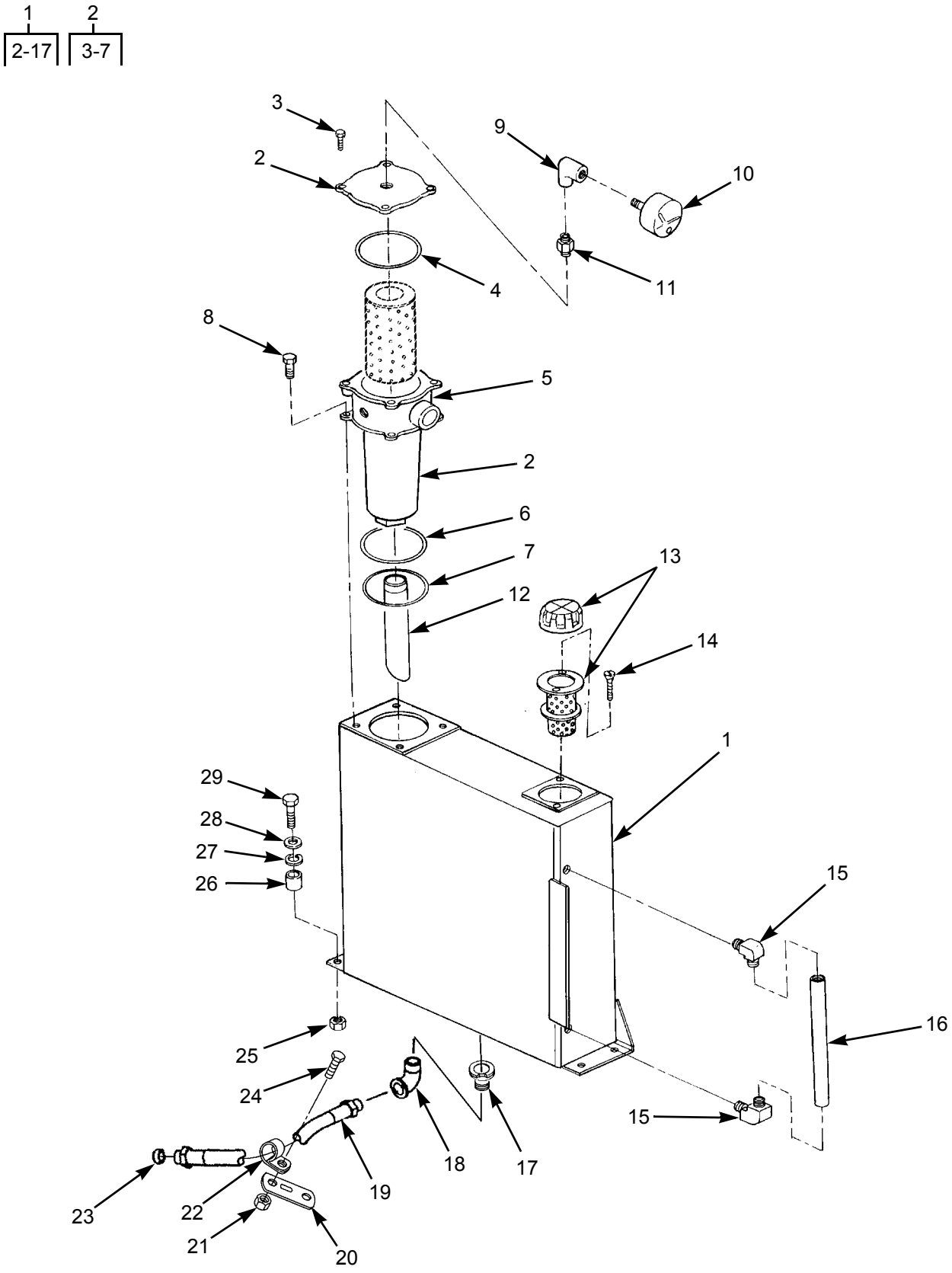


Figure 23. Hydraulic Reservoir Assembly.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 2408 LIQUID TANKS OR RESERVOIRS	
					FIG. 23 HYDRAULIC RESERVOIR ASSEMBLY	
1	PGOOZ	2590014470748	5X050	126615	TANK,OIL,HYDRAULIC.....	1
2	PFOZZ	2940014463570	5X050	403365	.FILTER BODY,FLUID.....	1
3	PAOZZ	5306012719425	60827	PS-0001	..BOLT,MACHINE 5/16-18X1.00 INCH...	4
4	PAOZZ	5331014474034	60827	251-70-BN	..O-RING.....	1
5	XAOZZ		60827	TR-1200-01	..HOUSING,PORT.....	1
6	PAOZZ	5331014474040	60827	246-70-BN	..O-RING.....	1
7	PAOZZ	5331014473098	60827	TS-355-70-BN	..O-RING.....	1
8	PAOZZ	5305000680510	80204	B1821BH038C100N	.SCREW,CAP,HEXAGON H 3/8-16X1.00...	4
9	PAOZZ	4730002041272	30780	2102-2-2	.ELBOW,PIPE.....	1
10	PAOZZ	6685014471188	5X050	403367	.GAGE,PRESSURE,DIAL.....	1
11	PAOZZ	4730009213624	81346	A733S-6CFG	.NIPPLE,PIPE 1/8NPT X 1.50.....	1
12	XDOZZ		5X050	403368	.PIPE,SPECIAL 1.50 X 18.75 INCH....	1
13	PAOZZ	2590014461903	5X050	403246	.CAP,FILLER OPENING.....	1
14	PAOZZ	5305009931848	70318	A1BMW6024G	.SCREW,MACHINE 10-32X0.75.....	6
15	PAOZZ	4730000686616	79470	69X6	.ELBOW,PIPE TO TUBE.....	2
16	MOOZZ		5X050	239635X1.50	.TUBE,SIGHT 3/8 OD X 1.50 FT, MAKE FROM BULK PN: PT24006NA (79470).....	1
17	PFOZZ	4730002783888	30780	0102-12-8	REDUCER,PIPE 3/4"M X 1/2"F.....	1
18	PFOZZ	4730002892357	30780	2102-8-8	ELBOW,PIPE 1/2".....	1
19	XDOZZ		5X050	401288	HOSE ASSY 1/2 X 20 IN.....	1
20	XDOZZ		64678	23-09130-003	SPACER,PLATE.....	1
21	PAOZZ	5310000614650	45152	114356A	NUT,SELF-LOCKING,HE 1/4-20.....	1
22	XDOZZ		5X050	403678	CLAMP,HOSE,SST.....	1
23	XDOZZ		5X050	403677	CAP,PIPE 1/2" NPT.....	1
24	PAOZZ	5305000680509	80204	B1821BH025C125N	SCREW,CAP,HEXAGON H.....	1
25	PAFZZ	5310004883889	96906	MS51943-39	NUT,SELF-LOCKING,HE.....	4
26	XDOZZ		5X050	237379	SPACER.....	4
27	PAOZZ	5310005847888	96906	MS35338-51	WASHER,LOCK 3/4.....	4
28	PAOZZ	5310008098533	96906	MS27183-23	WASHER,FLAT 3/4..... UOC:7A1,7E1	4
28	PAOZZ	5310012671684	96906	MS51412-10	WASHER,FLAT 1/2".....	8
29	PAOZZ	5305000712071	80204	B1821BH050C200N	SCREW,CAP,HEXAGON H 1/2-13X2.00....	4

END OF FIGURE

1
2-6

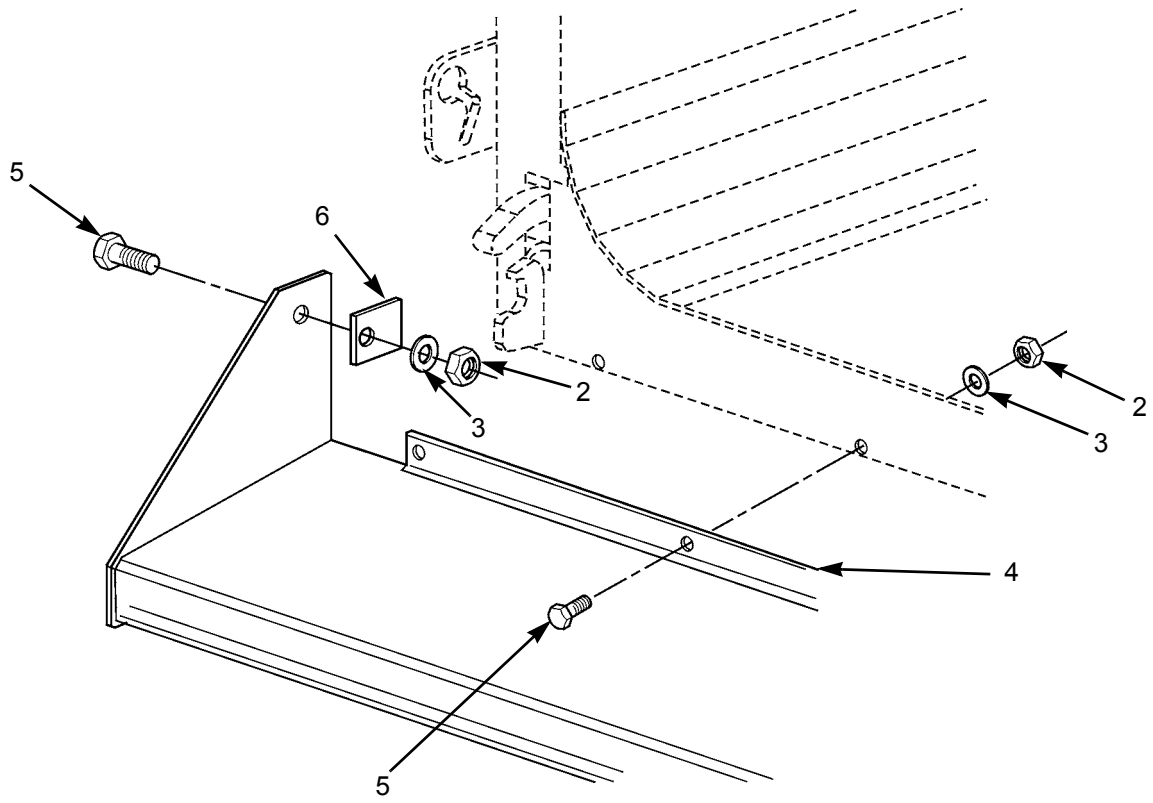


Figure 24. Spill Shield.

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 33 SPECIAL PURPOSE KITS	
					GROUP 3307 SPECIAL PURPOSE KITS	
					FIG. 24 SPILL SHIELD	
1	PAOZZ	2510015184549	5X050	142607	SPILL SHIELD.....	1
2	PAOZZ		5X050	402038	.HEX,LOCKNUT 3/8 NC.....	8
3	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	8
4	XAOZZ		5X050	150380	.SPILL SHIELD 12".....	1
5	PAOZZ		5X050	400121	.CAPSCREW,HEXHEAD 3/8NC X 1.....	8
6	XDOZZ		5X050	201834	.TAB, SPILL SHIELD M.....	2

END OF FIGURE

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 94 REPAIR KITS	
					GROUP 9401 REPAIR KITS	
					FIG. KITS	
	PAOZZ	3040014981887	5X050	404939	PARTS KIT,LINEAR AC.....	1
					UOC:7A1,7E1	
					ARM,WINDSHIELD WIPE(1) 13-23	
					BEARING,PISTON ROD (1) 13-22	
					PACKING,PREFORMED (2) 13-9	
					PACKING,PREFORMED (1) 13-16	
					PREFORMED,PACKING (1) 13-20	
					SEAL,PLAIN (2) 13-21	
					SEAL,PLAIN (2) 13-13	
					STRIP,METAL (1) 13-14	
	PAOZZ	3040014981885	5X050	404940	PARTS KIT,LINEAR AC.....	1
					UOC:7A1,7E1	
					VALVE,PILOT ASSY (1) 13-35	
					VALVE,REGULATING,FL(1) 13-31	

END OF FIGURE

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 95 GENERAL USE STANDARDIZED PARTS	
					GROUP 9501 HARDWARE SUPPLIES AND BULK MATERIEL, COMMON	
					FIG. BULK	
1	XDOZZ		77060	68240R	CONDUIT.....	V
2	PAOZZ	5510002559269	81349	MILL2037	LUMBER,HARDWOOD.....	V
3	PAOZZ	4720009254955	79470	PT24006NA	TUBING,NONMETALLIC 3/8 OD.....	V
4	PAOZZ	4720013958773	79470	NT10006	TUBING,NONMETALLIC.....	V
5	PAOZZ	4720011829067	61424	PFT-6B-BLK-100	TUBING,NONMETALLIC.....	V

END OF FIGURE

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NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-00-003-9174	11	3	5310-00-584-7888	23	27
4730-00-044-4035	14	5	5310-00-637-9541	15	11
4730-00-050-4208	10	14	5315-00-721-8370	10	9
5999-00-057-2929	4	7	5305-00-724-7222	9	4
4730-00-057-5555	14	11		10	13
5310-00-061-4650	7	11		11	2
	7	19	5305-00-724-7228	12	13
	15	45	5305-00-725-2317	11	13
	23	21	5310-00-732-0558	15	12
5310-00-061-4651	9	2	5340-00-753-3741	16	5
	10	11	5325-00-768-8563	18	2
	11	4	5325-00-803-7301	15	43
5305-00-068-0508	7	9	5330-00-809-1052	18	10
	7	21	5310-00-809-4058	15	48
5305-00-068-0509	23	24	5310-00-809-4061	16	3
5305-00-068-0510	14	9	5310-00-809-8533	23	28
	23	8	5315-00-809-8786	11	18
4730-00-068-6616	23	15	5310-00-814-0672	16	4
5305-00-071-2071	12	4	5310-00-820-6653	12	12
	23	29	4730-00-822-5609	21	6
5305-00-071-2076	9	9	5310-00-823-8804	7	10
	12	9		7	20
5305-00-071-2513	15	16	5935-00-833-8561	4	10
5310-00-080-6004	14	13	5970-00-833-8562	4	9
	24	3	5310-00-833-8567	4	6
5310-00-088-1251	15	35	5935-00-856-3513	1	3
4730-00-137-7875	13	29		7	2
5935-00-153-4397	7	5	4730-00-921-3624	23	11
	7	13	4720-00-925-4955	BULK	3
4730-00-173-1881	21	14	5310-00-935-9021	11	17
5325-00-174-9341	8	12		14	14
4730-00-204-1272	23	9	5305-00-947-4358	10	3
5306-00-226-4827	12	7	5306-00-957-7531	15	21
5510-00-255-9269	BULK	1	5305-00-984-7353	15	32
5305-00-269-2803	16	2	5305-00-988-1725	15	7
4730-00-277-8289	14	36		15	29
4730-00-278-3888	14	8	5305-00-989-7434	5	1
	23	17	5305-00-993-1848	23	14
4730-00-289-2357	14	7	4730-01-011-7736	21	5
	23	18	4730-01-028-5540	21	4
5310-00-347-0021	2	5	5340-01-032-8448	16	6
5940-00-399-6676	4	8	4730-01-046-4034	21	9
5310-00-409-3333	10	4	4730-01-048-5260	14	3
4820-00-435-4391	18	7		14	18
5310-00-488-3889	9	10		14	22
	12	3		14	28
	23	25	4730-01-048-7873	14	4
5325-00-530-7968	15	30		14	19
5305-00-543-4372	15	10		14	23
5310-00-550-1130	15	28		14	29

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NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
4730-01-056-4990	14	2	4820-01-418-4232	14	12
	14	17	5999-01-422-9740	7	7
	14	21		8	3
	14	27	2590-01-442-7238	19	1
4730-01-062-2570	14	16	5340-01-445-7778	15	46
5305-01-075-0957	15	41	5340-01-445-7781	3	7
6220-01-086-5691	3	1	2590-01-445-7883	19	2
6220-01-095-0011	3	4	7690-01-445-8961	17	5
4730-01-096-9128	14	1	7690-01-445-8967	17	6
4730-01-134-3571	14	26	7690-01-445-8973	17	7
5305-01-162-2358	11	7	7690-01-445-8976	17	1
5325-01-163-6558	3	2	6150-01-445-9130	4	1
2540-01-175-7257	16	1	5342-01-445-9481	15	6
5330-01-212-2222	18	8	5340-01-445-9486	9	3
5935-01-214-4163	13	39	7690-01-445-9897	17	4
5935-01-214-5259	7	8	7690-01-445-9903	17	2
5365-01-217-4133	22	11	7690-01-445-9933	17	3
5975-01-226-8078	4	4	6220-01-445-9978	3	5
	8	2	6220-01-445-9981	3	6
5975-01-230-4370	4	5	5365-01-446-0280	18	20
5330-01-236-0469	18	5	5342-01-446-0902	15	22
5365-01-236-0717	18	4	5340-01-446-0947	11	14
4730-01-244-3552	14	20	5930-01-446-0980	5	3
3110-01-260-2561	18	9	4720-01-446-1481	21	7
5310-01-267-1684	23	28	4720-01-446-1508	21	3
5306-01-271-9425	23	3	4720-01-446-1541	21	8
5325-01-283-3513	3	3	4720-01-446-1729	21	12
4820-01-298-8416	21	1	2510-01-446-1842	10	8
5935-01-308-7866	4	2	2590-01-446-1903	23	13
5935-01-308-8599	8	4	4730-01-446-2107	21	11
5975-01-310-5011	6	3	4730-01-446-2108	13	8
	7	6	4730-01-446-2110	21	2
	13	37	4730-01-446-2112	21	10
3120-01-328-4294	18	11	3040-01-446-2408	18	12
5930-01-332-0680	2	2	3040-01-446-2413	11	19
5310-01-333-6436	15	18	5315-01-446-3121	9	8
5930-01-336-0919	5	2	5360-01-446-3122	15	14
5935-01-339-9574	6	4	5360-01-446-3190	15	47
5940-01-340-0587	8	7	5360-01-446-3194	15	23
5365-01-340-3898	22	9	4730-01-446-3255	21	13
5310-01-340-8088	18	18	4330-01-446-3337	20	1
5330-01-340-8159	18	13	2530-01-446-3340	15	34
5310-01-340-8353	18	16	2940-01-446-3570	23	2
4730-01-345-6065	13	28	3040-01-446-3620	22	1
5975-01-355-6985	7	4	3040-01-446-3782	15	40
	7	14	3040-01-446-3790	15	15
5365-01-361-4609	18	3	3040-01-446-3793	15	19
5999-01-364-1237	8	10	5325-01-446-4051	22	13
5940-01-366-1563	7	17	5325-01-446-4052	22	13
5999-01-406-4110	13	38	5325-01-446-4053	22	13

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	STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
	5360-01-446-4054	15	36	4710-01-466-4881	BULK	2
	5365-01-446-4322	22	12	5999-01-466-5398	1	7
	3040-01-446-4665	22	3	5305-01-466-7940	2	4
	3040-01-446-4689	15	37	6150-01-466-9174	8	5
	5340-01-446-4927	11	12	6220-01-469-5480	2	6
	5340-01-446-5137	11	11	5340-01-469-6693	11	6
	3040-01-446-6274	22	4	5940-01-469-7988	4	3
	3040-01-446-6277	22	4	3020-01-473-2738	15	33
	3040-01-446-6280	22	5	3040-01-473-2741	15	44
	6150-01-446-6344	8	1	5330-01-473-2903	13	34
	6150-01-446-6345	6	1	2510-01-473-8250	12	1
	3020-01-446-6405	15	31	2510-01-473-8251	12	1
	3020-01-446-6409	15	4	4730-01-473-9667	14	38
	3020-01-446-6412	15	2	4730-01-473-9699	14	37
	5315-01-446-6724	15	3	5330-01-474-2447	13	32
*				5340-01-474-6446	15	42
	5307-01-446-7531	18	19	5340-01-474-6449	15	27
	5360-01-446-7903	15	20	5340-01-474-6455	15	1
	5325-01-446-8320	8	9	5340-01-474-6462	15	5
	4820-01-446-8874	19	3	5220-01-474-8432	13	15
	5305-01-446-8972	15	25	3130-01-474-9064	15	9
	5315-01-446-9174	13	44	5340-01-474-9576	15	49
	5315-01-446-9177	13	1	5365-01-475-2277	13	33
	5325-01-446-9182	22	14	5342-01-475-2802	15	17
	5325-01-446-9204	22	14	5310-01-481-4919	13	12
	5325-01-446-9210	22	14	5330-01-482-8766	13	16
	5315-01-447-0479	11	8	5340-01-492-7615	15	26
	5315-01-447-0480	10	1	3040-01-497-0345	12	11
	5315-01-447-0481	11	9	5930-01-497-0704	1	10
	2590-01-447-0748	23	1	6150-01-497-4879	7	12
	5330-01-447-1113	22	2	6150-01-497-4886	7	1
	6685-01-447-1188	23	10	6150-01-497-5582	1	2
	5305-01-447-1330	18	17	4710-01-497-5644	12	6
	3040-01-447-2738	13	3	5340-01-497-8124	12	8
	5331-01-447-3098	23	7	3040-01-498-1885	KITS	
	5331-01-447-4034	23	4	3040-01-498-1887	KITS	
	5331-01-447-4040	23	6	9905-01-498-7857	1	9
	5315-01-447-5712	15	24	9905-01-498-7858	1	9
	5315-01-448-8804	15	38	9905-01-498-7859	1	9
	7690-01-449-1447	17	11	9905-01-498-7860	1	9
	7690-01-449-1470	17	10	9905-01-498-8178	17	8
	5340-01-449-5470	9	11	5925-01-499-3416	1	6
	5342-01-449-5475	15	8	5310-01-502-2940	13	27
	2540-01-449-5775	15	13	5325-01-502-5209	13	25
	9905-01-449-9632	17	9	5315-01-507-0537	12	14
	4320-01-451-0045	18	1	5930-01-507-6990	1	4
	3040-01-459-5141	1	1	3040-01-515-7916	13	3
	5940-01-462-1717	6	6	5935-01-518-0417	8	13
	5940-01-462-1718	4	11	5365-01-518-2872	14	40
	2530-01-464-9916	7	16	5935-01-518-3690	3	9

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STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5935-01-518-3692	3	8			
2510-01-518-4549	24	1			
6220-01-518-6827	3	1			
6240-01-518-6843	3	4			
5310-01-518-7454	12	15			
4720-01-518-9183	21	3			
4730-01-518-9184	14	39			
4730-01-518-9540	21	8			
4720-01-519-0924	21	7			
4730-01-519-1777	21	4			
4730-01-519-1782	21	4			
5930-01-520-4456	2	2			

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	CAGEC	PART NUMBER	NSN	FIG	ITEM
	81343	AS15003-1	4730-00-050-4208	10	14
	64678	A06-24606-276	6150-01-466-9174	8	5
	64678	A06-30769-101	5930-01-520-4456	2	2
	70318	A1BMW6024G	5305-00-993-1848	23	14
	81346	A733S-6CFG	4730-00-921-3624	23	11
	64678	BCI/231E	5999-01-466-5398	1	7
	7J764	BNT220		1	5
	7J764	BNT22002	5930-01-507-6990	1	4
	02249	B12071-0300	3040-01-446-6274	22	4
	02249	B12071-0400	3040-01-446-6277	22	4
	02249	B12071-0500	3040-01-446-4665	22	3
	80204	B1821BH025C075N	5305-00-068-0508	7	9
				7	21
	80204	B1821BH025C125N	5305-00-068-0509	23	24
	80204	B1821BH025C250N	5305-00-071-2513	15	16
	80204	B1821BH031C100N	5306-00-226-4827	12	7
	80204	B1821BH038C075N	5305-00-543-4372	15	10
	80204	B1821BH038C100N	5305-00-068-0510	14	9
				23	8
	80204	B1821BH038C150N	5305-00-725-2317	11	13
	80204	B1821BH050C200N	5305-00-071-2071	12	4
				23	29
	80204	B1821BH050C325N	5305-00-071-2076	9	9
				12	9
	80204	B1821BH063C200N	5305-00-724-7222	9	4
				10	13
				11	2
	80204	B1821BH063C300N	5305-00-724-7228	12	13
	80204	B1821BH075C400N	5305-00-947-4358	10	3
*					
	12662	B490A	6220-01-445-9978	3	5
	12662	B490R	6220-01-445-9981	3	6
	02249	B9971-00550	5325-01-446-9182	22	14
	5X050	CMG 400892	5310-01-518-7454	12	15
	7J764	CM10P		1	8
	52793	CW7435-57C	5310-00-820-6653	12	12
	7J764	C21PA03	5930-01-497-0704	1	10
	79470	C3109X8X6	4730-00-044-4035	14	5
	5B752	ECT 13 CRY	2540-01-449-5775	15	13
	81348	FFW92	5310-00-003-9174	11	3
	64678	FLD/45884 0072		19	2
	60827	FT-1215-ZP	4730-01-446-2112	21	10
	60827	FT-150-ZP	4730-01-446-3255	21	13
	9X737	HC150	4730-01-446-2107	21	11

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CAGEC	PART NUMBER	NSN	FIG	ITEM
81349	MILL2037	5510-00-255-9269	BULK	1
80205	MS16562-51	5315-00-809-8786	11	18
96906	MS16624-1050	5325-00-803-7301	15	43
96906	MS16624-1100	5325-00-530-7968	15	30
96906	MS27183-10	5310-00-809-4058	15	48
96906	MS27183-14	5310-00-080-6004	14	13
			24	3
96906	MS27183-15	5310-00-809-4061	16	3
96906	MS27183-23	5310-00-809-8533	23	28
96906	MS27183-9	5310-00-823-8804	7	10
			7	20
96906	MS35191-306	5305-00-984-7353	15	32
96906	MS35206-281	5305-00-988-1725	15	7
			15	29
96906	MS35207-263	5305-00-989-7434	5	1
80205	MS35333-40	5310-00-550-1130	15	28
80205	MS35338-46	5310-00-637-9541	15	11
96906	MS35338-51	5310-00-584-7888	23	27
96906	MS51412-10	5310-01-267-1684	23	28
96906	MS51525A12-16	4730-00-173-1881	21	14
96906	MS51527-A12	4730-01-011-7736	21	5
00624	MS51527A8	4730-00-822-5609	21	6
96906	MS51849-100	5305-01-075-0957	15	41
96906	MS51943-35	5310-00-935-9021	11	17
			14	14
96906	MS51943-39	5310-00-488-3889	9	10
			12	3
			23	25
96906	MS51943-45	5310-00-409-3333	10	4
96906	MS51967-8	5310-00-732-0558	15	12
80205	MS90726-60	5305-00-269-2803	16	2
13829	M1391K	4820-00-435-4391	18	7
96906	M45912/3-6FG8C	5310-00-814-0672	16	4
81349	M45913/1-4CG5C	5310-00-088-1251	15	35
81349	M81940/2-1	4820-01-298-8416	21	1
80205	NAS561-8-48	5315-00-721-8370	10	9
60827	PS-0001	5306-01-271-9425	23	3
79470	PT24006NA	4720-00-925-4955	BULK	3
80756	RRT206	5325-00-768-8563	18	2
60827	TR-1200-01		23	5
60827	TS-355-70-BN	5331-01-447-3098	23	7
93061	VS209P-8-4	4730-01-345-6065	13	28
93061	VS269NTA-6-4	4730-01-244-3552	14	20
7J764	WE11H415E	9905-01-498-7858	1	9
7J764	WE11H416E	9905-01-498-7857	1	9

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CAGEC	PART NUMBER	NSN	FIG	ITEM
7J764	WE11H417E	9905-01-498-7860	1	9
7J764	WE11H418E	9905-01-498-7859	1	9
02249	002-55074-04844		22	6
04710	01-5000-35	4820-01-446-8874	19	3
30780	01HP-6	4730-00-057-5555	14	11
79146	010029X11+/-		13	7
30780	0102-12-8	4730-00-278-3888	14	8
			23	17
79146	012037		13	30
79146	016964	4730-01-446-2108	13	8
79146	019067.	5315-01-446-9174	13	44
79146	019070	5315-01-446-9177	13	1
79146	020003-7	4710-01-466-4881	BULK	2
02249	0263914	3040-01-446-6280	22	5
02249	0263984		22	5
79146	030084		13	40
5B752	0311-860730	3040-01-446-4689	15	37
5B752	0311-860732	3040-01-446-3782	15	40
5B752	0311-861589	5342-01-446-0902	15	22
5B752	0311-861590	5342-01-475-2802	15	17
5B752	0311-861591	3040-01-446-3793	15	19
5B752	0311-861596	5340-01-474-6449	15	27
5B752	0311-862406	3020-01-473-2738	15	33
5B752	0311-960237	5360-01-446-3194	15	23
5B752	0311-960238	5360-01-446-3122	15	14
5B752	0311-960739	2530-01-446-3340	15	34
5B752	0311-961267	5342-01-449-5475	15	8
5B752	0311-961273	5342-01-445-9481	15	6
5B752	0311-961280	3040-01-446-3790	15	15
5B752	0311-961356	5340-01-492-7615	15	26
5B752	0311-961401	5340-01-474-6462	15	5
5B752	0311-961402	5340-01-474-6455	15	1
5B752	0311-962125		15	39
5B752	0311-962128	3040-01-473-2741	15	44
5B752	0311-962132	5340-01-474-6446	15	42
79146	032135	4820-01-418-4232	14	12
02249	034-55008-53118	5330-01-447-1113	22	2
02249	035-17002-00225	5365-01-446-4322	22	12
79146	035055		14	10
30780	0503-12-8	4730-01-046-4034	21	9
64678	06-22309-048	6220-01-469-5480	2	6
64678	06-24618-000		2	1
02249	062-40044-04689		22	8
02249	062-50049-04752		22	7
02249	063-30135-04992		22	10

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PART NUMBER INDEX

CAGEC	PART NUMBER	NSN	FIG	ITEM
5B752	0710-602155	3130-01-474-9064	15	9
5B752	0715-619601	5360-01-446-7903	15	20
5B752	0715-619602	5360-01-446-3190	15	47
5B752	0715-619800	5360-01-446-4054	15	36
5B752	0720-603557	3020-01-446-6412	15	2
5B752	0750-619592	3020-01-446-6405	15	31
5B752	0750-619594	3020-01-446-6409	15	4
5B752	0765-618830	5340-01-445-7778	15	46
11862	0815-660451		15	35
5B752	0825-670460	5305-01-446-8972	15	25
02249	083-10005-00562	5325-01-446-4051	22	13
02249	083-50002-00350	5325-01-446-9210	22	14
02249	083-50002-00450	5325-01-446-9204	22	14
02249	083-50003-00362	5325-01-446-4053	22	13
02249	083-50003-00462	5325-01-446-4052	22	13
5B752	0835-691616	5315-01-447-5712	15	24
5B752	0840-618512	5315-01-446-6724	15	3
5B752	0840-618513	5315-01-448-8804	15	38
5B752	0920-590324	7690-01-449-1470	17	10
5B752	0920-590325	7690-01-449-1447	17	11
30780	1-1/2 CDS	4730-01-028-5540	21	4
13548	10004R	6220-01-095-0011	3	4
13548	10250R	6240-01-518-6843	3	4
77326	11-700	5935-00-856-3513	1	3
			7	2
77326	11-720	5935-00-153-4397	7	5
			7	13
77326	11-761	5975-01-355-6985	7	4
			7	14
77326	11-763		7	3
5X050	110543		10	2
45152	114356A	5310-00-061-4650	7	11
			7	19
			15	45
			23	21
5X050	117122	5315-01-447-0481	11	9
77060	1201 0300	5935-01-339-9574	6	4
77060	1201 5797	5935-01-308-8599	8	4
77060	12010293	5975-01-226-8078	4	4
			8	2
22785	12010973	5935-01-214-4163	13	39
77060	12015199		8	6
77060	12015323	5975-01-310-5011	6	3
			7	6
			13	37

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	NSN	FIG	ITEM
77060	12015344	5935-01-518-0417	8	13
77060	12015792	5935-01-214-5259	7	8
77060	1202 0116	5940-01-340-0587	8	7
77060	1204 7938		7	18
77060	1204 8086	2530-01-464-9916	7	16
77060	12045773	5999-01-364-1237	8	10
77060	12047933		8	11
77060	12048074	5940-01-366-1563	7	17
77060	12048159	5940-01-462-1717	6	6
77060	12052924	5325-01-446-8320	8	9
77060	12066304		7	15
77060	12084673		6	2
77060	12085036		6	5
77060	12124582	5999-01-406-4110	13	38
77060	12129493	5940-01-469-7988	4	3
19207	12302814	2540-01-175-7257	16	1
19207	12387349-43	5310-00-061-4651	9	2
			10	11
			11	4
19207	12420936	5999-01-422-9740	7	7
			8	3
5X050	126426		11	5
5X050	126427		11	5
5X050	126615	2590-01-447-0748	23	1
5X050	126617		9	5
5X050	127170	5315-01-447-0480	10	1
5X050	127373	5340-01-469-6693	11	6
5X050	127838		10	15
5X050	127852	5340-01-446-5137	11	11
5X050	127892		11	10
5X050	128125		10	5
5X050	128126	2510-01-446-1842	10	8
5X050	128129		9	1
5X050	128130	5340-01-445-9486	9	3
5X050	128131	5340-01-449-5470	9	11
5X050	128214	3040-01-459-5141	1	1
5X050	129305		10	6
5X050	129306		10	7
5X050	129528		12	10
5X050	129568		11	1
5X050	129652		12	2
5X050	129653	5340-01-497-8124	12	8
5X050	129732	5340-01-446-0947	11	14
5X050	129871	5930-01-446-0980	5	3
5X050	13141	3040-01-515-7916	13	3

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	NSN	FIG	ITEM
45152	1354190	5305-01-162-2358	11	7
5X050	140409	2510-01-473-8251	12	1
5X050	140410	2510-01-473-8250	12	1
12662	142-18	5325-01-283-3513	3	3
5X050	142607	2510-01-518-4549	24	1
5X050	143893		11	5
5X050	150380		24	4
77060	15300014	5940-01-462-1718	4	11
77060	15300027	5935-01-308-7866	4	2
5B752	1545-619860	5340-01-474-9576	15	49
5X050	201834		12	1
5X050	208047	5315-01-446-3121	9	8
30780	2101-4-4C	4730-00-137-7875	13	29
30780	2102-2-2	4730-00-204-1272	23	9
30780	2102-8-8	4730-00-289-2357	14	7
			23	18
10266	213 1-4 20X2 1-2	5306-00-957-7531	15	21
93061	216P-4	4730-00-277-8289	14	36
64678	23-09130-003		23	20
64678	23-10340-125	5310-01-333-6436	15	18
64678	23-10864-706	5305-01-466-7940	2	4
7J764	23E10	5925-01-499-3416	1	6
5X050	237379		23	26
5X050	237386		9	6
5X050	237387		9	7
5X050	237409	5340-01-446-4927	11	12
5X050	237410	3040-01-446-2413	11	19
5X050	238021	5340-01-445-7781	3	7
5X050	239635X1.50		23	16
5X050	239693		10	10
5X050	239694		10	12
5X050	239932	4730-01-446-2110	21	2
5X050	239963	3040-01-497-0345	12	11
5X050	239973	4710-01-497-5644	12	6
5X050	239974		12	5
64678	24-00783-000		2	3
5X050	245352		11	16
5X050	245538X66		14	15
5X050	245539X21		14	32
5X050	245540X17		14	31
5X050	245541X8		14	33
5X050	245542X31		14	25
5X050	245543X9		14	30
5X050	245544X144		14	24
5X050	245786X36		14	34

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	NSN	FIG	ITEM
5X050	245787X38		14	35
60827	246-70-BN	5331-01-447-4040	23	6
60827	251-70-BN	5331-01-447-4034	23	4
38335	25316	5330-01-212-2222	18	8
30780	264NTA-6	4730-01-134-3571	14	26
70485	2872	5325-00-174-9341	8	12
13829	308 5030 201		18	6
13829	308 8020 901		18	14
13829	308 9310 156	4320-01-451-0045	18	1
13829	308 9414 024		18	15
13829	312 2920 130	3040-01-446-2408	18	12
79146	320001		14	6
99321	3507	5310-00-347-0021	2	5
50620	38-22LP	5315-01-507-0537	12	14
13829	391 1401 382	5305-01-447-1330	18	17
13829	391 1425 437	5307-01-446-7531	18	19
13829	391 1451 115	5310-01-340-8088	18	18
13829	391 2882 051	5330-00-809-1052	18	10
82338	391 2883 119	5330-01-236-0469	18	5
13829	391 2884 019	5330-01-340-8159	18	13
13829	391 3283 052	5365-01-446-0280	18	20
13829	391 3381 040	5365-01-236-0717	18	4
13829	391 3383 069	5365-01-361-4609	18	3
13829	391 3782 146	5310-01-340-8353	18	16
13829	391-0381-906	3110-01-260-2561	18	9
13829	391-2185-913	3120-01-328-4294	18	11
5X050	400121		24	5
5X050	401288		23	19
5X050	401332	4730-01-518-9184	14	39
5X050	401540		21	15
5X050	401577	7690-01-445-9897	17	4
5X050	402038		24	2
5X050	403236	3040-01-446-3620	22	1
5X050	403246	2590-01-446-1903	23	13
5X050	403248	6150-01-497-4879	7	12
5X050	403254	6150-01-446-6345	6	1
5X050	403255	6150-01-445-9130	4	1
5X050	403256	6150-01-446-6344	8	1
5X050	403345X148.75		11	20
5X050	403365	2940-01-446-3570	23	2
5X050	403366	4330-01-446-3337	20	1
5X050	403367	6685-01-447-1188	23	10
5X050	403368		23	12
5X050	403374	7690-01-445-9903	17	2
5X050	403375	7690-01-445-8976	17	1

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	NSN	FIG	ITEM
5X050	403376	7690-01-445-8973	17	7
5X050	403377	7690-01-445-9933	17	3
5X050	403378	7690-01-445-8967	17	6
5X050	403381	5365-01-518-2872	14	40
5X050	403412	6150-01-497-5582	1	2
5X050	403456	4720-01-446-1729	21	12
5X050	403457	4720-01-446-1541	21	8
5X050	403458	4720-01-446-1481	21	7
5X050	403459	4720-01-446-1508	21	3
5X050	403484	6150-01-497-4886	7	1
5X050	403492	7690-01-445-8961	17	5
5X050	403514	9905-01-498-8178	17	8
5X050	403541	9905-01-449-9632	17	9
5X050	403607	3040-01-447-2738	13	3
5X050	403620	4730-01-473-9699	14	37
5X050	403621	4730-01-473-9667	14	38
5X050	403626		13	18
5X050	403627		13	6
5X050	403628		13	19
5X050	403629		13	22
5X050	403630		13	10
5X050	403631	5220-01-474-8432	13	15
5X050	403632	5310-01-481-4919	13	12
5X050	403633		13	4
5X050	403634		13	43
5X050	403635		13	23
5X050	403636	5330-01-482-8766	13	16
5X050	403637		13	21
5X050	403638		13	9
5X050	403639		13	13
5X050	403640		13	14
5X050	403641		13	17
5X050	403642		13	42
5X050	403643		13	5
5X050	403644		13	11
5X050	403645		13	31
5X050	403646		13	36
5X050	403647		13	35
5X050	403648	5330-01-473-2903	13	34
5X050	403649	5365-01-475-2277	13	33
5X050	403650	5330-01-474-2447	13	32
5X050	403677		23	23
5X050	403678		23	22
5X050	404927		13	24
5X050	404928	5325-01-502-5209	13	25

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

	CAGEC	PART NUMBER	NSN	FIG	ITEM
	5X050	404929		13	20
	5X050	404930		13	26
	5X050	404931	5310-01-502-2940	13	27
	5X050	404932		13	1
	5X050	404933		13	2
	5X050	404934		13	1
	93061	404938		13	41
	5X050	404939	3040-01-498-1887	KITS	
	5X050	404940	3040-01-498-1885	KITS	
	5X050	406340	4720-01-519-0924	21	7
	5X050	406341	4730-01-518-9540	21	8
	5X050	406342	4720-01-518-9183	21	3
	5X050	406355	4730-01-519-1782	21	4
	5X050	406356	4730-01-519-1777	21	4
*	64670	407023		11	15
	60602	45884-48	2590-01-445-7883	19	2
	60602	55940-4	2590-01-442-7238	19	1
	19204	572929	5999-00-057-2929	4	7
	93061	60NTA-6	4730-01-048-5260	14	18
				14	22
				14	28
	93061	60NTA6	4730-01-048-5260	14	3
	13548	60085R	6220-01-518-6827	3	1
	13548	60202R	6220-01-086-5691	3	1
	13548	60700	5325-01-163-6558	3	2
	93061	61NTA-6	4730-01-048-7873	14	4
				14	19
				14	23
				14	29
	0PXJ7	63-04	5315-01-447-0479	11	8
	93061	63NTA-6	4730-01-056-4990	14	2
				14	17
				14	21
				14	27
	93061	68NTA-6-4	4730-01-062-2570	14	16
	93061	68NTA-6-6	4730-01-096-9128	14	1
	93061	68PMT-6-4		13	30
	64678	681 545 07 22	5930-01-332-0680	2	2
	77060	68240R-276		8	8
	79470	69X6	4730-00-068-6616	23	15
	19200	7550233-1	5340-00-753-3741	16	5
	19200	7550233-2	5340-01-032-8448	16	6
	19207	8338561	5935-00-833-8561	4	10
	19207	8338562	5970-00-833-8562	4	9
	19207	8338564	5940-00-399-6676	4	8
	5A910	8338566	5975-01-230-4370	4	5

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	NSN	FIG	ITEM
19207	8338567	5310-00-833-8567	4	6
13445	8486	5930-01-336-0919	5	2
01276	900598-12S	5365-01-340-3898	22	9
01276	900598-8S	5365-01-217-4133	22	11
13548	93745	5935-01-518-3692	3	8
13548	94706	5935-01-518-3690	3	9

APPENDIX D
COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS

Section I. INTRODUCTION

D-1. SCOPE.

a. This appendix lists Components of End Item (COEI) and Basic Issue Items (BII) for the M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Truck Body to help you inventory items required for safe and efficient operation.

b. Refer to TM 9-2320-363-10 or TM 9-2320-302-10 for COEI and BII related to the dump truck chassis.

D-2. GENERAL.

The COEI and BII Lists are divided into the following sections:

a. **Section II, Components of End Item.** This listing is for informational purposes only and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Illustrations are furnished to assist you in identifying the items.

b. **Section III, Basic Issue Items.** These are the minimum essential items required to place the truck in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged, BII must be with the truck during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard-to-identify items. This manual is your authority to request/requisition replacement BII, based on TOE/MTOE authorization of end item.

D-3. EXPLANATION OF COLUMNS.

Below is an explanation of columns found in the tabular listings:

a. **Column (1) - Illustration Number (Illus Number).** This column indicates the number of the illustration that shows the item.

b. **Column (2) - National Stock Number.** Indicates the National Stock Number (NSN) assigned to the item and will be used for requisitioning purposes.

c. **Column (3) - Description and Usable On Code.** Indicates the Federal item name and, if required, a minimum description in parentheses to identify and locate the item. The entry for each item ends with the Commercial and Government Entity Code (CAGEC) in parentheses followed by the part number. Usable On Code indicates the vehicle to which the item is assigned. Usable on codes for the M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS are:

Usable On Code	Model
7A1	M917A1
7E1	M917A1 w/MCS
7A2	M917A2
7E2	M917A2 w/MCS

D-3. EXPLANATION OF COLUMNS (Con't).

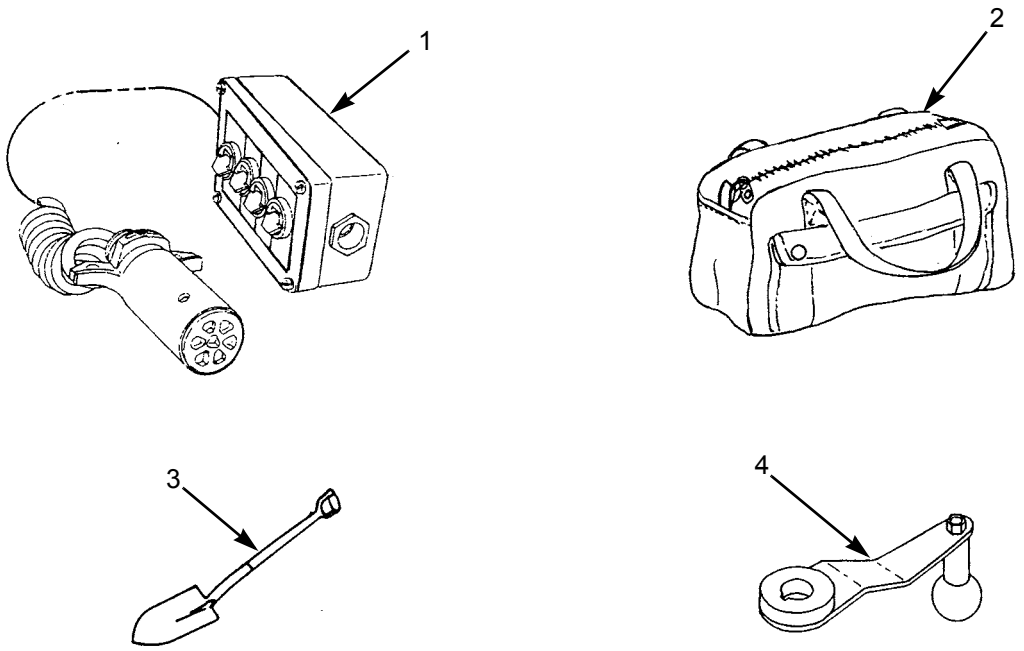
d. **Column (4) - Unit of Issue (U/I).** Indicates how the item is issued for the National Stock Number shown in Column (2).

e. **Column (5) - Quantity Required (Qty/Rqd).** Indicates the quantity of the item authorized to be used with the equipment.

Section II. COMPONENTS OF END ITEM

There are currently no COEI assigned.

Section III. BASIC ISSUE ITEMS



(1) Illus Number	(2) National Stock Number	(3) Description (CAGEC) Part Number	(4) Usable On Code	(5) U/I	(6) Qty Rqd
1	3040-01-459-5141	Control Unit Assembly, MCS (in tool pouch in BII storage box) (5X050) 128214	7E1, 7E2	EA	1
2	5140-00-329-4306	Pouch, Mechanics Tool (in BII storage box) (80049) 50J8016	7A1, 7E1 7A2, 7E2	EA	1
3	5120-00-293-3336	Shovel, Hand, Rd Pt, D-Hdl, Short Size 2 (19207) 11655784	7A1, 7E1 7A2, 7E2	EA	1
4	5340-01-445-9357	Tarp, Crank Handle (in tool pouch in BII storage box) (5B752) 0311-960301	7A1, 7E1 7A2, 7E2	EA	1

APPENDIX E
ADDITIONAL AUTHORIZATION LIST

Refer to TM 9-2320-363-10 or TM 9-2320-302-10.

APPENDIX F
EXPENDABLE AND DURABLE ITEMS LIST

Section I. INTRODUCTION

F-1. SCOPE.

This appendix lists expendable and durable items you will need to operate and maintain the M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Truck Body. This listing is for informational purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, *Expendable/ Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items)*, or CTA 8-100, *Army Medical Department Expendable/Durable Items.*

F-2. EXPLANATION OF COLUMNS.

a. **Column (1) - Item Number.** This number is assigned to the entry in the listing and is referenced in the "Initial Setup" of maintenance paragraphs or narrative instructions to identify the material needed (e.g., Dry cleaning solvent, Item 5, Appendix F).

b. **Column (2) - Level.** This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew
O - Unit Maintenance
F - Direct Support Maintenance
H - General Support Maintenance

c. **Column (3) - National Stock Number.** This is the National Stock Number assigned to the item. Use it to request or requisition the item.

d. **Column (4) - Item Name, Description, Commercial and Government Entity Code (CAGEC), Part Number.** Indicates the Federal Item Name and, if required, a description to identify the item. The last line for each item indicates the Commercial and Government Entity Code (CAGEC) in parentheses followed by the part number, if applicable.

e. **Column (5) - Unit of Measure (U/M)/Unit of Issue (U/I).** This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr). If the unit of measure differs from the unit of issue as shown in the Army Master Data File (AMDF), requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE AND DURABLE ITEMS LIST

(1) Item Number	(2) Level	(3) National Stock Number	(4) Item Name, Description, (CAGEC), Part Number	(5) U/M U/I
1	O		ADHESIVE: Loctite, Minute Bond 312 (05972) 31231	
		8040-01-024-6991	50 Milliliter Bottle	ml
2	O		BARRIER MATERIAL: Greaseproof, Waterproofed Flexible (81349) MIL-B-121	
		8135-00-171-0930	100 Yard Roll	yd
3	O	7920-00-061-0038	BRUSH: Scrub (83421) 7920-00-061-0038	ea
4	O	7920-00-900-3577	BRUSH: Wire (17987) 3577	ea
5	C		CLEANING COMPOUND: Solvent (81349) MIL-PRF-680	
		6850-01-474-2320 6850-01-474-2321	5 Gallon Can 50 Gallon Drum	gl gl
6	O		COMPOUND: Dishwashing, Hand (83421) 7930-00-899-9534	
		7930-00-899-9534	5 Gallon Can	gl
7	O		COMPOUND: Sealing, Pipe (05972) 59231	
		8030-01-054-0740	50 Cubic Centimeter Tube	cc
8	O		CORROSION PREVENTIVE (09137) WD-40	
		8030-01-418-9006	Box of 12 Aerosol Cans, 9 Ounces Each	oz
9	C		DETERGENT: General Purpose, Liquid (83421) 7930-00-282-9699	
		7930-00-282-9699	1 Gallon Can	gl
10	O		FLUX: Soldering, TY1 Form A (58536) A-A-51145	
		3439-00-255-9935	1 Pound Can	lb

Section II. EXPENDABLE AND DURABLE ITEMS LIST (Con't)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Item Name, Description, (CAGEC), Part Number	(5) U/M U/I
11	C		GREASE: Automotive and Artillery, GAA (81349) M-10924-B	
		9150-01-197-7693	14 Ounce Cartridge	oz
		9150-01-197-7688	2¼ Ounce Tube	oz
		9150-01-197-7690	1¾ Pound Can	lb
		9150-01-197-7689	6½ Pound Can	lb
		9150-01-197-7692	35 Pound Pail	lb
		9150-01-197-7691	120 Pound Drum	lb
12	O		GREASE: Ball Bearing (73219) 9150-00-076-1574	
		9150-00-076-1574	5 Pound Can	lb
13	C		OIL: Lubricating, Internal Combustion Engine, Arctic, OEA (81349) MIL-L-46167	
		9150-00-402-4478	1 Quart Can	qt
		9150-00-402-2372	5 Gallon Can	gl
		9150-00-491-7197	55 Gallon Drum	gl
14	C		OIL: Lubricating, Internal Combustion Engine, OE/HDO 10 (81349) M2104-1-10W	
		9150-00-189-6727	1 Quart Can	qt
		9150-00-186-6668	5 Gallon Can	gl
		9150-00-191-2772	55 Gallon Drum	gl
15	C		OIL: Lubricating, Internal Combustion Engine, OE/HDO 30 (81349) M2104-1-30W	
		9150-00-186-6681	1 Quart Can	qt
		9150-00-188-9858	5 Gallon Can	gl
		9150-00-189-6729	55 Gallon Drum	gl
16	C		RAG: Wiping (64067) 7920-00-205-1711	
		7920-00-205-1711	50 Pound Bale	lb

Section II. EXPENDABLE AND DURABLE ITEMS LIST (Con't)Section

(1) Item Number	(2) Level	(3) National Stock Number	(4) Item Name, Description, (CAGEC), Part Number	(5) U/M U/I
17	F		SEALANT: Adhesive, Silicone Rubber (94833) 52498	
		8040-00-833-9563	5 Ounce Tube	kt
18	O		SOLDER: Lead Alloy (81346) SN40BS	
		3439-00-247-6921	1 Pound Bar	lb
		3439-00-265-7102	1 Pound Spool/Roll	lb
19	O	9905-00-537-8954	STRAP: Tiedown. Electrical Components Box of 100	ea
		5975-00-984-6582	(96906) MS3367-1-0 6 Inch Length, 1.75 Inch Maximum Bundle, Black	
		5975-00-935-5946	(96906) MS3367-2-1 13.35 Inch Length, 4 Inch Maximum Bundle, Black	
		5975-00-903-2284	(81349) M33671-4-0 4 Inch Length, Black	
20	O	9905-00-537-8954	TAG: Marker (64067) 9905-00-537-8954 50 each	ea
21	O		TAPE: Antiseize, ½ Inch Width (81755) P5025-2R	
		8030-00-889-3535	260 Inch Roll	in.

II. EXPENDABLE AND DURABLE ITEMS LIST (Con't)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Item Name, Description, (CAGEC), Part Number	(5) U/M U/I
22	O	8030-00-889-3535	TAPE: Duct, 2 Inch Width (39428) 1791K70	
		5640-00-103-2254	60 Yard Roll	yd
23	F		TAPE: Pressure Sensitive Adhesive, Masking, Flat 1 Inch Width (76892) MANSON1-1-2	
		5970-00-682-8536	60 Yard Roll	yd
24		5970-00-815-1295	TUBING: Heat Shrinkable (81343) M23053/5-106-0	ft

APPENDIX G
ILLUSTRATED LIST OF MANUFACTURED ITEMS

Section I. INTRODUCTION

G-1. SCOPE.

a. This appendix includes complete instructions for making items authorized to be manufactured or fabricated.

b. A part number index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the paragraph which covers fabrication criteria.

c. All bulk materials needed for manufacture of an item are listed by Part Number and Cage Code or specification number.

d. Only items requiring complicated manufacturing instructions are illustrated.

Table G-1. Manufactured Items Part Number Cross-Reference Index.

Part Number	Name	Paragraph
010029X12	Tube, MCS, Air Cylinder	G-3
239635X1.5	Tube, Sight, Hyd. Reservoir	G-6
245538X66	Tube, Air, MCS Tailgate	G-4
245539X21	Tube, Air, MCS Tailgate	G-4
245540X17	Tube, Air, MCS Tailgate	G-4
245541X8	Tube, Air, MCS Tailgate	G-4
245542X31	Tube, Air, MCS Tailgate	G-4
245543X9	Tube, Air, MCS Tailgate	G-4
245544X144	Tube, Air, MCS Tailgate	G-4
245786X36	Tube, Air, Tailgate Release	G-2
245787X38	Tube, Air, Tailgate Release	G-2
403345X148.75	Board, Side, Dump Body	G-5
N/A	Disassembly Tool, Hydraulic Cylinder	G-7

Section II. MANUFACTURING INSTRUCTIONS

G-2. TAILGATE RELEASE AIR CYLINDER TUBES.

a. Fabricate from bulk Part Number NT10006 (79470), 3/8 in. OD nonmetallic tubing.

b. Cut to 36 in. long to make Part Number 245786X36.

c. Cut to 38 in. long to make Part Number 245787X38.

G-3. MCS AIR CYLINDER TUBE.

a. Fabricate from bulk Part Number 020003-7 (79146), 3/8 in. OD copper tubing.

b. Cut to approximately 12 in. long, then cut to fit and flare ends to make Part Number 010029X12.

c. Two required per each MCS air cylinder.

G-4. MCS TAILGATE AIR TUBES.

a. Fabricate from bulk Part Number NT10006 (79470), 3/8 in. OD nonmetallic tubing.

b. Cut to 66 in. long to make Part Number 245538X66.

c. Cut to 21 in. long to make Part Number 245539X21.

d. Cut to 17 in. long to make Part Number 245540X17.

e. Cut to 8 in. long to make Part Number 245541X8.

f. Cut to 31 in. long to make Part Number 245542X31.

g. Cut to 9 in. long to make Part Number 245543X9.

h. Cut to 144 in. long to make Part Number 245544X144.

G-5. DUMP BODY SIDE BOARD.

a. Fabricate from bulk Part Number MILL2037 (81349), 2.0 in. x 8.0 in. rough sawn hardwood.

b. Cut to fit 148.75 in. long to make Part Number 403345X148.75.

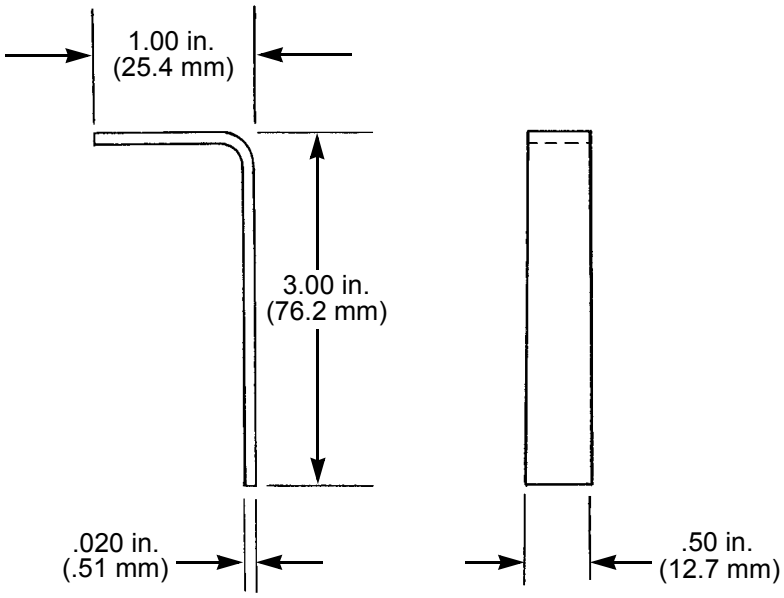
c. Two required per dump body.

G-6. HYDRAULIC RESERVOIR SIGHT TUBE.

a. Fabricate from bulk Part Number PT 24006NA (79470), 3/8 in. OD clear tubing.

b. Cut to 1.50 ft long to make Part Number 239635X1.50.

G-7. HYDRAULIC CYLINDER DISASSEMBLY TOOL.



1. Fabricate from .020 in. shim stock.
2. All dimensions are approximate.
3. Four required.

APPENDIX H
TORQUE LIMITS

H-1. SCOPE.

This appendix lists standard torque values, as shown in Table H-1, and provides general information for applying torque. Special torque values and tightening sequences are indicated in the maintenance procedures for applicable components.

H-2. GENERAL.

a. Always use the torque values listed in Table H-1 when the maintenance procedure does not give a specific torque value.

b. Unless otherwise indicated, standard torque tolerance shall be ±10%.

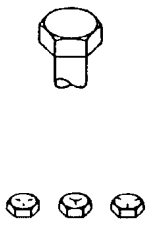
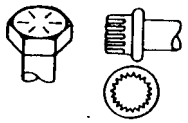
c. Torque values listed are based on clean, dry threads. Reduce torque by 10% when engine oil is used as a lubricant. Reduce torque by 20% if new plated capscrews are used.

d. Capscrews threaded into aluminum may require reductions in torque of 30% or more of Grade 5 capscrew torque. Capscrew threaded into aluminum must also attain two capscrew diameters of thread engagement.

CAUTION

If replacement capscrews are of higher grade than originally supplied, use torque specifications for the original. This will prevent equipment damage due to over-torquing.

Table H-1. Torque Limits.

Current Usage	Much Used	Much Used	Used at Times	Used at Times
Quality of Material	**Indeterminate**	**Minimum Commercial**	**Medium Commercial**	**Best Commercial**
SAE Grade Number	1 or 2	5	6 or 7	8
Capscrew Head Markings **Manufacturer's marks may vary** **These are all SAE Grade 5 (3 line)**				
Capscrew Body Size Inches - Thread	**Torque lb.-ft. (N•m)**	**Torque lb.-ft. (N•m)**	**Torque lb.-ft. (N•m)**	**Torque lb.-ft. (N•m)**
1/4 20	5 (7)	8 (11)	10 (14)	12 (16)
28	6 (8)	10 (14)		14 (19)
5/16 18	11 (15)	17 (23)	19 (26)	24 (33)
24	13 (18)	19 (26)		27 (37)
3/8 16	18 (24)	31 (42)	34 (46)	44 (60)
24	20 (27)	35 (47)		49 (66)
7/16 14	28 (38)	49 (66)	55 (75)	70 (95)
20	30 (41)	55 (75)		78 (106)
1/2 13	39 (53)	75 (102)	85 (115)	105 (142)
20	41 (56)	85 (115)		120 (163)
9/16 12	51 (69)	110 (149)	120 (163)	155 (210)
18	55 (75)	120 (163)		170 (231)
5/8 11	83 (113)	150 (203)	167 (226)	210 (285)
18	95 (129)	170 (231)		240 (325)
3/4 10	105 (142)	270 (366)	280 (380)	375 (508)
16	115 (156)	295 (400)		420 (569)
7/8 9	160 (217)	395 (536)	440 (597)	605 (820)
14	175 (237)	435 (590)		675 (915)
1 8	235 (319)	590 (800)	660 (895)	910 (1234)
14	250 (339)	660 (895)		990 (1342)

APPENDIX I
TOOL IDENTIFICATION LIST

Section I. INTRODUCTION

I-1. GENERAL.

This appendix lists tools you will need to maintain the dump truck body. This listing is for informational purposes only and is not authority to requisition the tools. Common tools are found in the supply catalogs and special tools are found in the Maintenance Allocation Chart (MAC).

I-2. DEFINITION OF COLUMNS.

a. **Column (1) - Item Number (No.).** This number is assigned to the entry in the listing and is referenced in the "Initial Setup" of maintenance paragraphs or narrative instructions to identify the tool needed (e.g., General mechanic's tool kit, Item 8, Appendix I).

b. **Column (2) - Item Name.** Indicates the tool or tool set name and, if required, a description to identify the tool.

c. **Column (3) - National Stock Number.** This is the National Stock Number (NSN) assigned to the tool. Use it to request or requisition the tool.

d. **Column (4) - (CAGEC) Part Number.** When no NSN is available, a Commercial and Government Entity Code (CAGEC) followed by a part number will be used where possible.

e. **Column (5) - Reference.** Indicates the technical manual or supply catalog in which the tool can be found.

Section II. TOOL IDENTIFICATION LIST

(1) Item No.	(2) Item Name	(3) National Stock Number	(4) (CAGEC) Part Number	(5) Reference
1	Cap and Plug Set	5340-00-450-5718	(19207) 10935405	
2	Gun, Air Blow	4940-00-333-5541	(58536) A-A-55543 TY2 CL1 STA	SC 4910-95-CL-A74
3	Multimeter, Digital	6625-00-519-0112	(81349) ANPRM15	SC 4910-95-CL-A74
4	Pan, Drain	4910-00-387-9592	(36540) 17942	SC 4910-95-CL-A74
5	Pliers, Retaining Ring: internal, 3.062-6.250 in.	5120-00-293-0186	(19207) 7082060	
6	Sling, Nylon	2835-01-078-2081	(91796) 4-8FTX2IN	
7	Soldering Gun	3439-00-618-6623	(58536) A-A-59307-1A1B	SC 4910-95-CL-A74
8	Tool Kit, General Mechanic's, Automotive	5180-00-177-7033	(50980) SC 5180-90-CL-N26	SC 5180-90-CL-N26

Section II. TOOL IDENTIFICATION LIST (Con't)

(1) Item No.	(2) Item Name	(3) National Stock Number	(4) (CAGEC) Part Number	(5) Reference
9	Vise, Machinist's	5120-00-293-1439	(79416) 504M2	SC 4910-95-CL-A74
10	Wrench, Adjustable: 0-3 5/8 in. jaw opening	5120-00-264-3793	(24617) 2117080	SC 4910-95-CL-A74
11	Wrench, Torque: 1/2 in. drive, 0-175 lb.-ft. capacity	5120-00-640-6364	(58635) A-A-2411	SC 4910-95-CL-A74
12	Wrench, Torque: 3/4 in. drive, 0-600 lb.-ft. capacity	5120-01-355-1773	(55719) TE602A	SC 4910-95-CL-A72
13	Wrench Set, Socket: 3/4 in. drive	5120-00-204-1999	(81348) GGG-W-641	SC 4910-95-CL-A72

APPENDIX J
LUBRICATION INSTRUCTIONS

J-1. GENERAL.

NOTE

- **These instructions are mandatory.**
- **Lubrication of M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS chassis is in TM 9-2320-363-10 or TM 9-2320-302-10 and TM 9-2320-363-20 or TM 9-2320-302-20.**

a. The M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS Dump Truck Body must receive lubrication with approved lubricants at recommended intervals in order to be mission-ready at all times.

b. Hydraulic oil/filter are changed by Unit Maintenance annually.

c. The Lubrication Chart shows lubrication points, items to be lubricated, the required lubricants, and recommended intervals for lubrication. Any special lubrication instructions required for specific components are contained in the NOTES section of the chart.

d. The KEY provides information needed to select the proper lubricant for various temperature ranges and uses, and identifies the capacities and intervals.

e. Recommended intervals are based on normal conditions of operation, temperature, and humidity. When operating under extreme conditions, lubricants should always be changed more frequently. When in doubt, notify your supervisor.

J-2. SPECIFIC LUBRICATION INSTRUCTIONS.

a. Keep all lubricants in a closed container and store in a clean, dry place away from extreme heat. Keep container covers clean and do not allow dust, dirt, or other foreign material to mix with lubricants. Keep lubrication equipment clean and ready for use.

b. Maintain a record of lubrication performed and report any problems noted during lubrication. Refer to DA Pam 738-750 for maintenance forms and procedures to record and report any findings.

c. Keep all external parts of equipment not requiring lubrication free of lubricants. After lubrication, wipe off excess lubricant to prevent accumulation of foreign matter.

d. Refer to FM 9-207 for lubrication instructions in cold weather.

LUBRICATION CHART

TRUCK, DUMP, HEAVY, BODY
M917A1
(NSN 3805-01-431-1165)
M917A1 W/MCS
(NSN 3805-01-432-8249)
M917A2
(NSN 3805-01-448-7442)
M917A2 W/MCS
(NSN 3805-01-448-6963)

This Lubrication Chart is for operator/crew (C) and Unit Maintenance (O). Lubrication intervals (on-condition or hard time) are based on normal operation. Lubricate more during constant use and less during inactive periods. Use correct grade of lubricant for seasonal temperature expected.

For equipment under manufacturer's warranty, hard time oil service intervals shall be followed. Intervals shall be shortened if lubricants are known to be contaminated or if operation is under adverse conditions (e.g., longer than usual operating hours, extended idling periods, extreme dust, etc.).

WARNING

Dry cleaning solvent MIL-PRF-680 Type III is an environmentally compliant and low toxic material. However, it may be irritating to the eyes and skin. The use of protective gloves and goggles is suggested. Use in well-ventilated area. Keep away from open flame and other sources of ignition.

Clean area around lubrication points with dry cleaning solvent (Item 5, Appendix F) or equivalent before lubricating equipment. After lubrication, wipe off excess lubricant to prevent accumulation of foreign matter.

Before you start your lubrication service:

ALWAYS

a. Clean area around lubrication point before lubricating.

b. Use the Lubrication Chart as your guide.

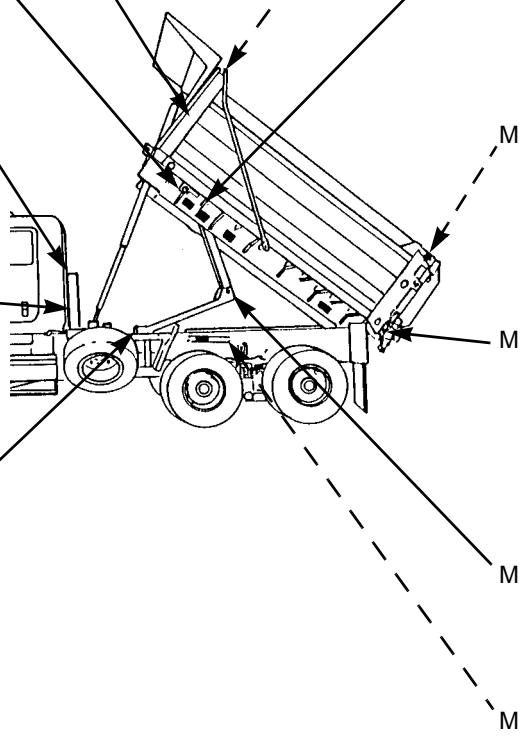
NEVER

a. Use wrong type/grade lubricant.

b. Use too much lubricant.

M917A1, M917A1 W/MCS, M917A2, AND M917A2 W/MCS

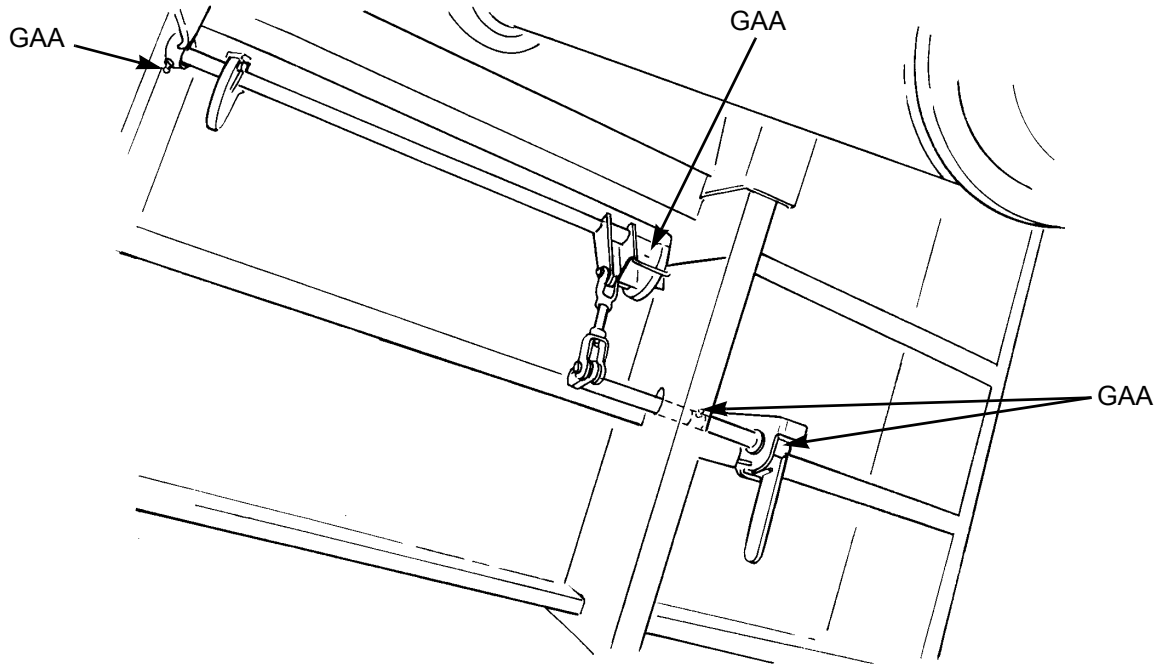
LUBRICANT	INTERVAL		INTERVAL	LUBRICANT
Cargo Cover Chain (Oil Can Point) (Note 1a) (O)	WD-40	S	S	WD-40 Cargo Cover Roller Shaft Bearings (Oil Can Point) (View D and Note 1b) (O)
Transport Lock Linkage (4 Fittings) (View A and Note 2) (C)	GAA	M	M	GAA Stabilizer Top Cross (2 Fittings) (View C and Note 4) (C)
Hydraulic Reservoir (Check Level and Fill) (View B and Note 3a) (C)	OE/ HDO or OEA	D	M	GAA Tailgate Hinge Pins (1 Fitting Each) (View E and Note 5) (C)
Hydraulic Reservoir (Drain and Refill) (View B and Note 3b) (O)	OE/ HDO or OEA	OC or A	M	GAA Tailgate Locking Linkage (1 Fitting) (View F and Note 6) (C)
Stabilizer Bottom Cross (2 Fittings) (View C and Note 4) (C)	GAA	M	M	GAA Stabilizer Center Hinge (1 Fitting) (View C and Note 4) (C)
			M	GAA Body Props (1 Fitting Each) (View G and Note 7) (C)



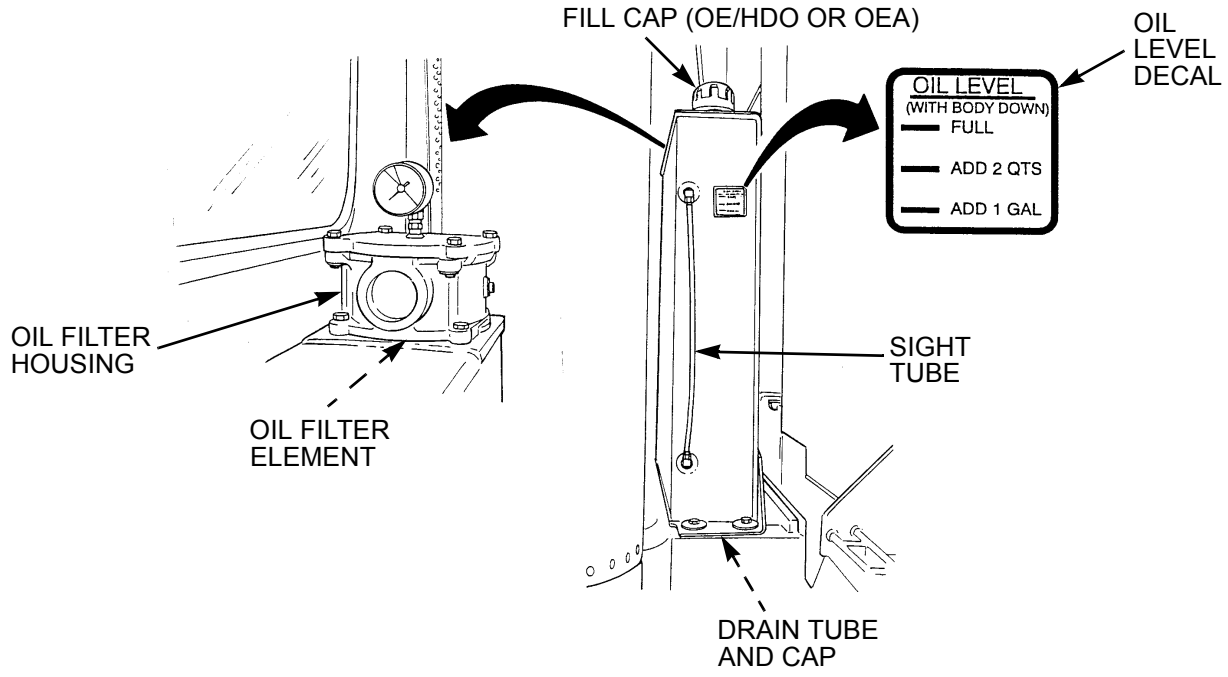
- KEY -

Lubricant/ Component	Refill Capacity	Expected Temperatures*			Intervals
		+6°F to +122°F (-14°C to +50°C)	-4°F to +50°F (-20°C to +10°C)	-67°F to +32°F (-55°C to 0°C)	
OE/HDO (MIL-L-2104) Lubricating Oil, ICE, Tactical **OEA (MIL-L-46167)** Lubricating Oil, ICE, Arctic • Hydraulic Reservoir	12.75 gal. (48.2 l)	OE/HDO 10	OE/HDO 10	OEA	D - Daily M-Monthly S-Semi-annual OC-On Condition
GAA (MIL-G-10924) Grease, Automotive and Artillery • Body Props • Stabilizer • Transport Lock Linkage • Tailgate Hinge Pins • Tailgate Locking Linkage	As Required	ALL TEMPERATURES			
WD-40 Corrosion Preventive • Cargo Cover Chain • Cargo Cover Roller Shaft Bearings	As Required	ALL TEMPERATURES			
* For arctic operation, refer to FM 9-207.					

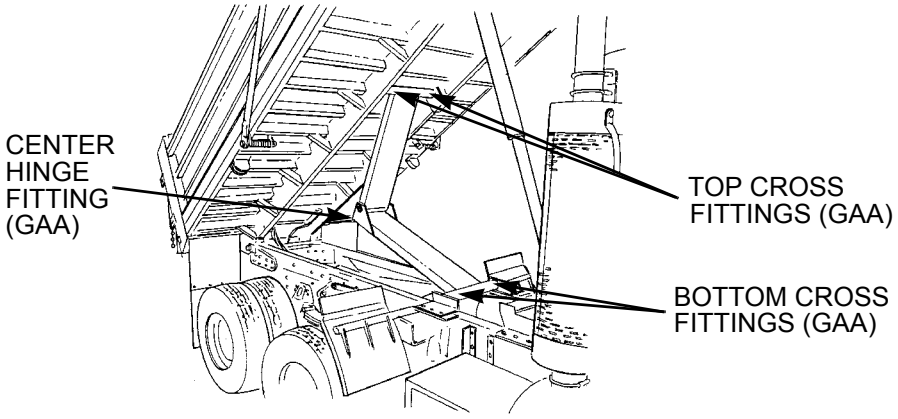
A TRANSPORT LOCK LINKAGE



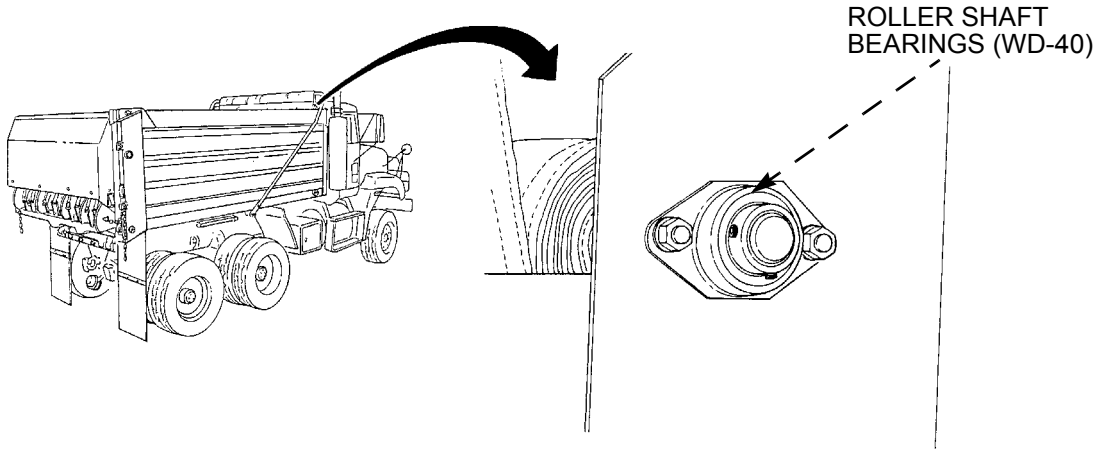
B HYDRAULIC RESERVOIR



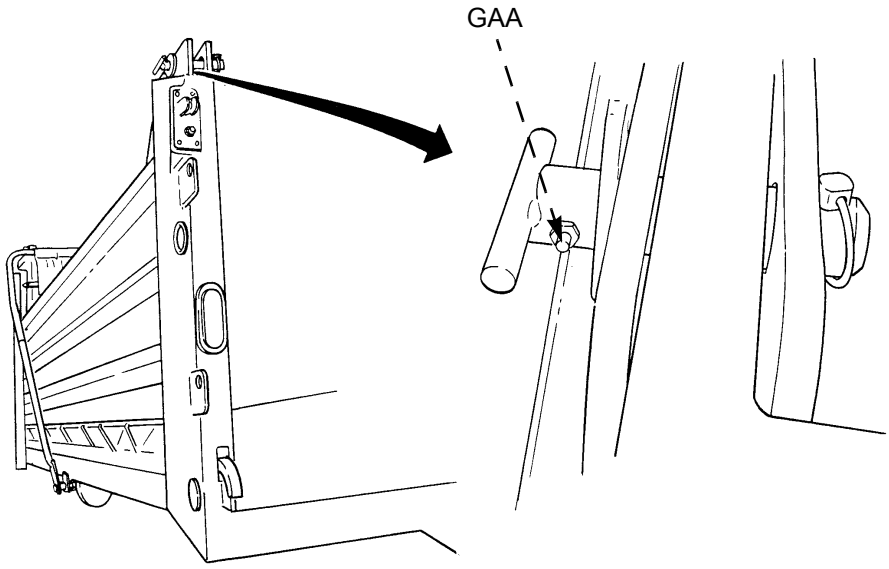
C **STABILIZER**



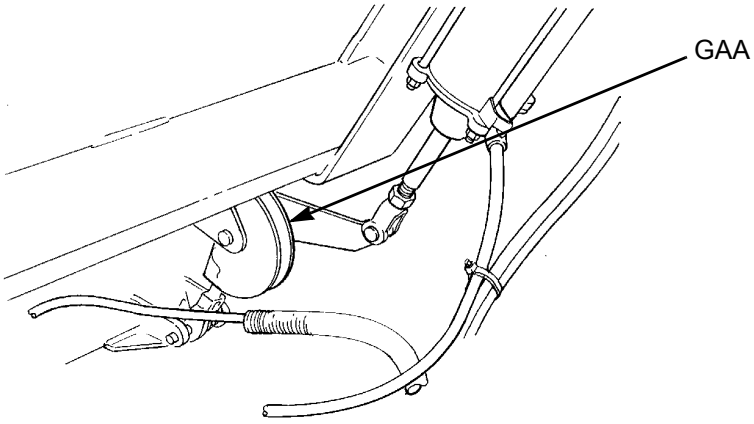
D **CARGO COVER**



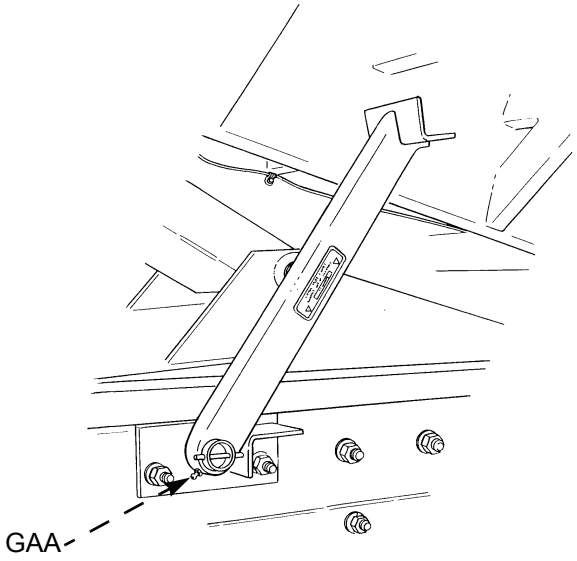
E **TAILGATE HINGE PINS**



F TAILGATE LOCKING LINKAGE



G BODY PROPS



NOTES:

1. **CARGO COVER.**

a. Semiannually, remove chain cover. Clean chain as required and lubricate sparingly with corrosion preventive. Install chain cover (paragraph 4-66).

b. Semiannually, lubricate roller shaft bearings at roll-up bar mounting brackets. Apply corrosion preventive sparingly.

2. **TRANSPORT LOCK LINKAGE.**

a. Monthly, raise dump body and support on body props (paragraph 2-15). Apply GAA to four lubrication fittings on linkage. Remove dump body from body props and lower.

b. Remove locking pin and operate transport lock. Reinstall locking pin with transport lock at 3 o'clock position (paragraph 2-2).

3. **HYDRAULIC RESERVOIR.**

WARNING

To prevent burns, use caution when removing fill cap of hydraulic reservoir when hydraulic fluid is hot. Avoid contact with hot hydraulic oil. Use extreme care when filling, sampling or draining hydraulic oil. Failure to follow this warning may result in injury to personnel.

a. Daily, with dump body down, vehicle parked on level ground, and engine off, check sight tube to determine level of hydraulic oil in reservoir. Level should be even with FULL mark on oil level decal. If low, remove fill cap, remove any debris from strainer, and clean fill cap and strainer with a clean rag (Item 16, Appendix F). Add OE/HDO or OEA through fill cap opening to bring oil level up to FULL mark. DO NOT overfill.

NOTE

- **If reservoir must be filled while dump body is raised and supported on body props, level of oil should be at bottom of sight tube.**
- **Whenever hydraulic oil filter service indicator shows RED, hydraulic oil filter element must be replaced.**

b. Annually, with dump body down, remove cap from drain tube on underside of reservoir and drain all oil. Remove and clean fill cap and strainer. Install strainer (paragraph 4-74). Replace hydraulic oil filter element (paragraph 4-75). Clean drain plug and install. Fill reservoir with OE/HDO or OEA until level in sight tube is at FULL mark on oil level decal. DO NOT overfill.

4. **STABILIZER.** Monthly, raise dump body and support on body props (paragraph 2-15). Apply GAA to five lubrication fittings on stabilizer. Remove dump body from body props and lower.

5. **TAILGATE HINGE PINS.** Monthly, apply GAA to each tailgate hinge pin lubrication fitting.

6. **TAILGATE LOCKING LINKAGE.** Monthly, apply GAA to tailgate locking linkage lubrication fitting.

7. **BODY PROPS.** Semiannually, raise dump body and support on body props (paragraph 2-15). Apply GAA to each body prop lubrication fitting.

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PUBLICATION/FORM NUMBER	DATE	Title
TM 5-3805-264-14&P	30 December 2005	Operator's, Unit, DS, & GS Maintenance Manual Manual w/ RPSTL for M917A1, M917A1 w/ MCS, M917A2, and M917A2 w/MCS

ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Provide exact wording of recommended changes, if possible).
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PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

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PUBLICATION/FORM NUMBER	DATE	TITLE
TM 5-3805-264-14&P	30 December 2005	M917A1, M917A1 w/MCS, M917A2, and M917A2 w/MCS

ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Provide exact wording of recommended changes, if possible).

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PUBLICATION NUMBER	DATE	TITLE
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By Order of the Secretary of the Army:

PETER J.SCHOOMAKER
General, United States Army
Chief of Staff

Official:

SANDRA R. RILEY
Administrative Assistant to the
Secretary of the Army
0508907

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THE METRIC SYSTEM AND EQUIVALENTS

Linear Measure

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

Weights

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 Pounds
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

Liquid Measure

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

Square Measure

1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches
1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet
1 Sq Kilometer = 1,000,000 Sq Meters = 0.0386 Sq Miles

Cubic Measure

1 Cu Centimeter = 1,000 Cu Millimeters = 0.06 Cu Inches
1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

Temperature

5/9 (°F - 32) = °C
212° Fahrenheit is equivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
9/5 C° +32 = F°

APPROXIMATE CONVERSION FACTORS

To Change	To	Multiply By
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Sq Inches	Sq Centimeters	6.451
Sq Feet	Sq Meters	0.093
Sq Yards	Sq Meters	0.836
Sq Miles	Sq Kilometers	2.590
Acres	Sq Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Sq Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

To Change	To	Multiply By
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Sq Centimeters	Sq Inches	0.155
Sq Meters	Sq Feet	10.764
Sq Meters	Sq Yards	1.196
Sq Kilometers	Sq Miles	0.386
Sq Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Sq Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621

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